



# Memorandum

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**Subject:** Data Evaluation Report, 2021 Residential Soil Sampling

**Project Name:** Old American Zinc Plant Superfund Site, Fairmont City, St. Clair County and Madison County, Illinois  
Task Order No. 68HE0521F0068/Contract No. 68HE0318D0004

**Attention:** Sheila Desai/U.S. Environmental Protection Agency (EPA)

**From:** CH2M HILL, Inc. (CH2M)

**Date:** March 14, 2022

**DCN:** DES-R5-21F0068-02005

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CH2M performed remedial design (RD) soil sampling for the Old American Zinc Plant Superfund Site (site) to collect data at surrounding residential, commercial/industrial, and vacant properties associated with the site and to evaluate the nature and extent of the contaminants of concern (COCs) in the surrounding property areas. The COCs are arsenic, cadmium, zinc, and lead. The sampling results will be used to support the RD for the surrounding properties. Previous sampling events include the time-critical removal action (TCRA) sampling, remedial investigation (RI) sampling, and RD sampling events in 2017, 2018, 2019, and 2020. These previous events also supported RDs for the surrounding properties and the onsite facility area (FA) consolidation area. Sampling was conducted in accordance with the Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) (CH2M, 2021) at residential (vacant and occupied) and exempt properties. Additionally, guidance from the *Cultural Resources Monitoring for the Old American Zinc Plant Superfund Site Remediation Activities* (CH2M, 2019a) was also followed in the field.

This report presents the results of soil sampling conducted for the COCs at 22 properties. Data tables at the end of this document present the data for each property sampled and a summary of COC exceedances. Attachment 1 contains the data quality evaluation report, Attachment 2 provides a photo log, and Attachment 3 contains field logbook pages from sampling.

This report is composed of the following five sections:

- 1) Introduction (site description and history, and purpose of sampling)
- 2) Data Acquisition (field activities conducted during the sampling event)
- 3) Sampling Results
- 4) Conclusions
- 5) References

## **1. Introduction**

### **1.1 Site Description**

The site is located in the village of Fairmont City in St. Clair County and Madison County, Illinois (Figure 1). The site includes a 132-acre FA and surrounding properties, where elevated metals concentrations associated with the facility operation were found in different media. The FA is bordered by several commercial and industrial properties, including Garcia Trucking to the west, CSX Intermodal railroad yard to the south, and General Chemicals to the east. Most of the residential properties lie to the west of the FA, with smaller pockets of residential or trailer-park developments to the south, east, and north of the FA.

Zinc-smelting operations were conducted at the site from 1916 to 1967. Slag from the smelting operation was cooled by placing the molten material along the northern and western boundaries of the FA. Slag from the site was transported offsite and used as fill material in residential yards and alleyways. The slag stockpiles originally encompassed an area of 15 acres. The site, including the clinker and other smelting residues on the property, was purchased in 1979 by XTRA Intermodal, Inc. (XTRA). XTRA operated a trucking terminal at the site that involved the leasing, storage, and maintenance of a diverse fleet of trailers until 2003. XTRA ground up and redistributed the slag stockpiles on the FA to build up and level the former plant site to facilitate its trucking operation. At present, redistributed slag on the FA covers an area of 125 acres, with thicknesses ranging from 6 inches to 9 feet (ENTACT, 2012).

### **1.2 Site History**

Site investigations conducted at the site since 1994 detail the nature and extent of contamination in the FA and surrounding properties. ENTACT completed the RI (ENTACT, 2009) and feasibility study (FS) (ENTACT, 2012) for the FA in 2012 and identified contaminants in different media that included slag stockpiles, ground slag that was used as fill material at surrounding properties, and high metals concentrations in shallow groundwater.

The surrounding areas impacted by the plant operations include residential, commercial, and vacant properties, village alleyways, and drainageways. Ground slag was transported to surrounding properties by local businesses, residents, and the Village for use as fill material in residential yards and surfacing alleyways (ENTACT, 2012). Most of the impacted properties are located to the west of the FA, with small pockets of impacted properties located in trailer parks and residential developments to the north, south, and east.

The potentially responsible party (PRP), under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act, conducted a TCRA from 2002 to 2003. A total of 462 surrounding properties was sampled, of which 209 properties were found to have lead concentrations exceeding the TCRA action level of 400 milligrams per kilogram (mg/kg) for residential properties and 1,000 mg/kg for commercial properties. No removal action was performed for vacant properties unless lead exceeded 1,200 mg/kg. Impacted soil was removed from 152 properties, with the remaining properties to be addressed under a remedial action that began in 2018. An additional 25 properties and 8 alleyways were sampled as part of the RI.

Following the completion of the RI/FS in 2012, EPA issued a Record of Decision (ROD) (EPA, 2012) detailing the selected remedial approach for the site. EPA entered into an Administrative Order on Consent with the PRP in August 2014 to perform the RD work. As part of the RD, an additional 14 residential properties were sampled during the predesign investigation (ARCADIS, 2016a), and a draft final RD report (consisting of the report and selected drawings, but no technical specifications)

(ARCADIS, 2016b) was submitted to EPA. In April 2016, the entity responsible for the PRP's work filed for Chapter 11 bankruptcy and ceased performing additional work at the site. As a result, EPA took control of the site and tasked CH2M to complete the RD activities for the FA and surrounding properties.

### **1.3 Previous Remedial Design Sampling**

CH2M collected RD soil samples from residential (occupied and vacant), commercial, and exempt properties, and alleyways in 2017, 2018, 2019, and 2020. Composite samples from properties were screened against the cleanup levels (CLs) specified in the ROD (residential CLs are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc). Composite samples from alleyways were screened against the nonresidential CLs specified in the ROD (239 mg/kg for arsenic, 809 mg/kg for cadmium, 826 mg/kg for lead, and 306,600 mg/kg for zinc).

- A total of 207 properties and 26 alleyways was sampled in 2017 (2 events). Nineteen properties that were previously sampled but required additional information based on EPA's evaluation were resampled during this round of sampling. Ultimately, 65 properties were identified with COC exceedances greater than the CL. Among these 65 properties, 32 residential properties and 8 alleyways were designed for cleanup. Additionally, 35 properties sampled during the TCRA and RI and 1 alleyway were included in the design. The remaining properties were designated by EPA for expedited cleanup and were not sketched or designed. Design drawings were included in the Final Basis of Design Report (and Revision 1) based on CH2M's 2017 investigation and historical data (CH2M, 2018a; 2018b).
- A total of 222 properties was sampled in 2018 (4 events). One property that had been previously sampled in 2017 was combined with two other parcels and resampled in 2018. Nine properties that had been previously sampled by ENTACT but required additional information based on EPA's evaluation were resampled during this round of sampling. Ultimately, 77 properties were identified with COC exceedances greater than the residential CL. Among these 77 properties, 66 residential properties were designed for cleanup. Additionally, 23 properties sampled during the TCRA and RI were included in the design. The remaining properties were designated by EPA for expedited cleanup and were not sketched or designed. Design drawings were included in Addendum 1 of the Final Basis of Design Report (CH2M, 2019b) based on CH2M's 2018 investigation and historical data.
- A total of 44 properties was sampled in 2019 (1 event). Four of these properties were granted access for sampling by St. Clair County Trustee. Twelve properties were identified with COC exceedances greater than the residential CL. All 12 properties were designed for cleanup. Design drawings were included in Addendum 2 of the Final Basis of Design Report (CH2M, 2020a) based on CH2M's 2019 investigation and historical data.
- A total of 12 properties was sampled in 2020 (1 event). Five properties were identified with COC exceedances greater than the residential CL. All 5 properties were designed for cleanup and were included in Addendum 3 of the Final Basis of Design Report (CH2M, 2020b) based on CH2M's 2020 investigation and historical data.

### **1.4 Purpose**

The purpose of the 2021 RD soil sampling event was to identify which properties require remediation of elevated concentrations of COCs in the top 24 inches of surface soil. Sample results were used to evaluate the maximum depth of COC exceedance based on the exceedance criteria defined by the ROD (EPA, 2012). Table 1-1 includes the CLs for soil based on human health risk.

Sketches were completed for each yard area where concentrations of arsenic, cadmium, lead, or zinc in the composite sample exceed the applicable CL specified in the ROD. Contaminated soil from the identified residential or vacant properties at concentrations exceeding the CL will be excavated to the maximum depth of contamination and placed in the consolidation area.

## **2. Data Acquisition**

The 2021 RD sampling effort consisted of obtaining property access and RD soil sampling.

### **2.1 Property Access**

The parcel databases for surrounding properties associated with the site were obtained from the St. Clair County and Madison County geographical information system offices. Multiple parcels in the database with the same street address and property owner information were identified and combined into one property. In addition, each property was divided into multiple yard areas for sampling purposes based on the total area of the property as described in the Section 2.1.2.2, Sampling Methods.

Fact sheets were mailed in 2021 to property owners, and access agreements were mailed and/or emailed in previous years to property owners who had not responded to previous mailings. The mailing lists targeted occupied residential properties, although some vacant residential properties were also included. A unique identification (ID) number was given to each property before mailing to track properties without unique addresses. These ID numbers are also used as sampling IDs during the RD soil sampling events.

### **2.2 Sampling**

One sampling event was completed in December 2021. A total of 22 properties (24 parcels) was sampled during this shift. Soil samples were collected in accordance with the UFP-QAPP (CH2M, 2021) and analyzed through the EPA Contract Laboratory Program for arsenic, cadmium, lead, and zinc by Method ISM02.4.

### **2.3 Utility Locating**

Before sampling, public utilities were marked by placing a utility-locate request through the Illinois One-Call system, JULIE. Private utilities within each property were marked by a third-party utility-locate subcontractor, Ground Penetrating Radar Systems, Inc. Utilities were marked using the American Public Works Association Uniform Color Code System. Before intrusive work, CH2M also conducted a visual inspection of each property for utilities and, if the homeowner was available, inquired about private utilities on the property.

### **2.4 Sampling Methods**

Soil samples were collected from residential (vacant and occupied) and exempt properties. Priority was given to residential-zoned properties with structures and occupants, although some residential vacant properties were sampled as well. The soil sampling consisted of collecting 416 composite samples from 22 properties (24 parcels) (not including quality assurance [QA]/quality control [QC] samples; Table 2-1).

In accordance with the UFP-QAPP, the number of yard areas sampled for each property was selected based on the property's total surface area. For properties with a surface area less than 5,000 square feet, a five-point composite sample was collected from the front yard, and a five-point composite sample was collected from the back yard. If there was a significant side yard (at least 10 feet of yard), a five-point composite sample was collected from the side yard. Composite samples (five-point) were collected from



the front, middle, and back yards of vacant (no structures) properties with a total surface area less than 5,000 square feet to compensate for the larger surface area due to the absence of a building. For properties with an area greater than 5,000 square feet, the property was subdivided into four areas of roughly equal surface area, and a five-point composite sample was collected from each area. Depending on the configuration of the property, the areas were sectioned into equally sized sections divided parallel to the street and sampled in “slices.” Sampling area divisions were developed based on aesthetic purposes of sod replacement if soil remediation is needed. For properties with an area greater than 1 acre, the property’s grass or soil surface area was divided into 0.5-acre sections, and a five-point composite sample was collected from each section. Alternate sampling schemes were reviewed and approved by EPA.

Soil samples were collected using a hand auger from 5 points within a section and in 6-inch intervals up to a depth of 24 inches (0 to 6, 6 to 12, 12 to 18, and 18 to 24 inches). Approximately 4 ounces of soil was collected from each of the 5 points per depth interval and homogenized using stainless-steel spoons in a bucket lined with a disposable liner. Rocks, miscellaneous debris, and vegetation were removed before the composite sample was placed in a jar. A total of four samples was collected per yard area or section (excluding QA/QC samples) and submitted to the laboratory for analysis. Section 3 presents laboratory analytical results to be used to determine excavation limits if concentrations exceeded a CL.

## **2.5 Quality Assurance/Quality Control**

In accordance with the UFP-QAPP, QA/QC samples were collected based on the number of samples submitted to the laboratory. Samples were analyzed for total arsenic, cadmium, lead, and zinc per Method ISM02.4, and Table 2-1 summarizes the QA/QC samples collected during the 2021 sampling event. Field duplicates were collected at a rate of 1 per 10 parent samples. Matrix spike and matrix spike duplicates were collected at a rate of 1 per 20 soil laboratory samples, and 1 equipment blank sample was collected per sampling team per day. Table 3-1 (properties less than 5,000 square feet), Table 3-2 (properties greater than 5,000 square feet, or 1 acre), and Table 3-3 (properties greater than 1 acre) present sample results, and Attachment 1 contains the data quality evaluation.

## **3. Sampling Results**

The following subsections summarize soil sampling results. Soil samples were collected from 22 properties (24 parcels) in 2021. Table 3-1 (properties less than 5,000 square feet), Table 3-2 (properties greater than 5,000 square feet, or 1 acre), and Table 3-3 (properties greater than 1 acre) present total arsenic, cadmium, lead, and zinc analytical data for residential properties, with values exceeding CLs shaded in grey. For samples with field duplicate data, the greater of the parent or duplicate sample is reported. Figure 2 shows the current site status, including all properties sampled in 2017 through 2021. Figure 3 shows properties with at least one exceedance by COC.

### **3.1 Total Arsenic**

The average arsenic concentration at residential properties sampled in 2021 was 8.7 mg/kg, with a maximum concentration of 52 mg/kg. Two of the 416 samples exceeded the residential CL of 32 mg/kg. Half of the exceedances occurred in the depth interval of 6 to 12 inches, and half occurred in the interval of 12 to 18 inches. On a per-property basis, 1 of 22 properties exceeded the arsenic CL (Figure 3).

### **3.2 Total Cadmium**

The average cadmium concentration at residential properties sampled in 2021 was 14 mg/kg, with a maximum concentration of 99 mg/kg. A total of 36 out of 416 samples exceeded the residential CL of 37 mg/kg, for an overall exceedance frequency of 9%. Forty-seven percent of the exceedances occurred in

the depth interval ranging from 0 to 6 inches, 47% occurred in the depth interval ranging from 6 to 12 inches, and 6% occurred in the depth interval ranging from 12 to 18 inches. On a per-property basis, 2 out of 22 properties exceeded the cadmium CL (Figure 3).

### 3.3 Total Lead

The average lead concentration at residential properties sampled in 2021 was 88 mg/kg, with a maximum concentration of 560 mg/kg. A total of 7 out of 416 samples exceeded the residential CL of 400 mg/kg, for an overall exceedance frequency of 1.7% by samples and 22.7% by property. Forty-three percent of the exceedances occurred in the depth interval ranging from 0 to 6 inches, 29% in the 6- to 12-inch interval, and 29% in the 12- to 18-inch interval. On a per-property basis, 5 out of 22 properties exceeded the lead CL (Figure 3).

### 3.4 Total Zinc

The average zinc concentration at residential properties sampled in 2021 was found to be 740 mg/kg, with a maximum concentration of 3,700 mg/kg. None of the 416 samples exceeded the residential CL of 6,400 mg/kg.

#### 3.4.1 Summary of Exceedances

Cadmium was the most common COC for CL exceedances in samples, and lead was the most common COC for CL exceedances in properties. This is consistent with previous years' investigations.

The maximum concentrations were as follows:

- Arsenic: 52 mg/kg
- Cadmium: 99 mg/kg
- Lead: 560 mg/kg
- Zinc: 3,700 mg/kg

In 2021 the higher exceedance frequency observed for cadmium and lead suggests that cadmium and lead are the primary COCs in residential soil, which drive the requirement for the residential soil cleanups.

## 4. Conclusions

Figure 2 presents the distribution of properties that were sampled, and Figure 3 presents the properties with COC concentrations exceeding the residential CLs for cadmium, lead, and arsenic.

The laboratory analytical results presented herein for total arsenic, cadmium, lead, and zinc will be used to evaluate whether remediation of the property is needed. The maximum depth of a COC exceedance, the yard area(s) with the exceedance, and the details from the sketches will be used to prepare RD drawings for each property showing the excavation extents and depth of excavations. Table 4-1 contains a complete list of properties with CL exceedances in 2021. Of the 22 properties sampled during this investigation, 5 properties were identified with COC exceedances greater than the residential CL. All five properties with exceedances were sketched in January 2022 and will be included in Addendum 4 of the Final Basis of Design Report, to be submitted in 2022.

## 5. References

ARCADIS. 2016a. *Predesign Investigation Report, Fairmont City, Old American Zinc Plant Site, Fairmont City, Illinois*. January.

ARCADIS. 2016b. *Draft Final Design Report, Fairmont City, Old American Zinc Plant Site, Fairmont City, Illinois*. March.

CH2M HILL, Inc. (CH2M). 2018a. *Final Basis of Design Report, Surrounding Properties, Old American Zinc Plant Site, Fairmont City, Illinois*. October.

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CH2M HILL, Inc. (CH2M). 2019b. *Final Basis of Design Report, Surrounding Properties, Revision 1, Addendum 1, Old American Zinc Plant Site, Fairmont City, Illinois*. July.

CH2M HILL, Inc. (CH2M). 2020a. *Final Basis of Design Report, Surrounding Properties, Addendum 2, Old American Zinc Plant Site, Fairmont City, Illinois*. January.

CH2M HILL, Inc. (CH2M). 2020b. *Final Basis of Design Report, Surrounding Properties, Addendum 3, Old American Zinc Plant Site, Fairmont City, Illinois*. July.

CH2M HILL, Inc. (CH2M). 2021. *Uniform Federal Policy Quality Assurance Project Plan, Old American Zinc Plant Site, Fairmont City, Illinois*. October.

ENTACT. 2009. *Final Remedial Investigation Report, Old American Zinc Plant Site, Fairmont City, Illinois*. March.

ENTACT. 2012. *Final Feasibility Study Document for the Old American Zinc Plant Site, Fairmont City, Illinois*. February.

U.S. Environmental Protection Agency (EPA). 2012. *Record of Decision, Old American Zinc Plant Superfund Site*. September.

## Tables

**Table 1-1. Final Cleanup Levels**

*Old American Zinc Plant Superfund Site*

<b>Contaminant of Concern</b>	<b>Residential (mg/kg)</b>	<b>Nonresidential (mg/kg)</b>
Arsenic	32	239
Cadmium	37	809
Lead	400	826
Zinc	6,400	306,600

mg/kg = milligram(s) per kilogram

**Table 2-1. Summary of Samples**

*Old American Zinc Plant Superfund Site*

<b>Analyses</b>	<b>Total Arsenic, Cadmium, Lead, and Zinc</b>
Method	Method ISM02.4 <sup>a</sup>
Number of primary samples	416
Number of field duplicates	40
Number of matrix spike/matrix spike duplicates	20
Number of equipment blanks	7

<sup>a</sup> Moisture content analysis was completed for samples undergoing total arsenic, cadmium, lead, and zinc analysis.

Note: Includes primary and quality assurance/quality control samples from offsite properties.

Table 3-1. Laboratory Analytical Results for Properties Less than 5,000 Square Feet  
Old American Zinc Plant Superfund Site

Property Address	Property ID	Arsenic (mg/kg)																Cadmium (mg/kg)							
		Back				Front				Middle				Side				Back				Front			
		0 – 6"	6 – 12"	12 – 18"	1 8 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	1 8 – 24"	0 – 6"	6 – 12"	12 – 18"	1 8 – 24"	0 – 6"	6 – 12"	12 – 18"	1 8 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"
████ KINGS HIGHWAY	1066	4.9	7	7.6	8.1	5.3	7.5	1.2 U	6.5	4.7	6.5	7.4	7.2	--	--	--	--	9.5	19	23	24	11	15	0.61 U	4.1
████ KINGS HIGHWAY	1067	6.7	6.5	6.8	6.2	5.9	7.5	6.8	4.6	6	6.8	6.1	5.6	--	--	--	--	13	8.7	3.8	3.1	11	17 J	12 J	2
████ MAPLE AVENUE	301	8.8	10	15	9.2	6	11	9	11	--	--	--	--	--	--	--	--	5.3	6.5	12	5.7	2.6	7.8	5.6	6
████ NORTH 61ST STREET	1007	8.8	7.1	6.6	8.1	6.4	7.5	6.2	6.3	--	--	--	--	6.6	8	5.5	6.8	2.5	1.8	1.7	2.5	2.5	2.3	2.6	3.8
FORUM DRIVE	1061	7.4	6.8	6.4	5.2	16	9.3	7.5	6.6	11	14	9.5 J	5.9	--	--	--	--	20	19	6	2.2	27	22	1.4	3.1
FORUM DRIVE	1062	18	5.6	7	5.2	8.3	6	5.7	5.3	17	12	6.4	6.4	--	--	--	--	16	10	3.9	0.78	28	7.9	1.1	0.62
FORUM DRIVE	1063	15	8.3	14	7.9	10	9	6.9	5.4	12	9.8	6.9	6.1	--	--	--	--	26	13	6	3.7	26	13	5.2 J-	1.1
FORUM DRIVE	1064	10	9.5	7.2	5.9	7.3	9.2	6	6	7.5	8.5	7	5.6	--	--	--	--	24	19	8.4	1.2	19	20	3.9	3.5
FORUM DRIVE	1065	8.9	7.4	6	6.1	8.7	11	7.1 J-	5.5	6.1	7.9	5.9	6.1	--	--	--	--	24	13	4.2	0.8	28	26	6.2 J-	2.3

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'--' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

J- = The analyte was positively identified; the quantitation is a low estimation because of discrepancies in meeting certain analyte-specific QC criteria

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration



Table 3-1. Laboratory Analytical Results for  
Properties Less than 5,000 Square Feet  
Old American Zinc Plant Superfund Site

		Cadmium (mg/kg)								Lead (mg/kg)															
		Middle				Side				Back				Front				Middle				Side			
Property Address	Property ID	0–6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
████ KINGS HIGHWAY	1066	11	14	18	19	--	--	--	--	54	79	58	96	64	55	1.2 U	24	97	70	89	59	--	--	--	--
████ KINGS HIGHWAY	1067	13	8.8	3.2	2.2	--	--	--	--	54	32	20	18	61	77	35 J	11	68	31	16	19	--	--	--	--
████ MAPLE AVENUE	301	--	--	--	--	--	--	--	--	180	170	560	150	87	130	140	140	--	--	--	--	--	--	--	--
████ NORTH 61ST STREET	1007	--	--	--	--	2.2	2	0.65	3.3	80	36	35	37	58	45	39	50	--	--	--	--	90	28	55	45
FORUM DRIVE	1061	20	25	8.4	1	--	--	--	--	86	51	26	13	110	66	15	19	76	77	26	11	--	--	--	--
FORUM DRIVE	1062	25	19	4.1	1.6	--	--	--	--	65	18	17	8.5	110	18	12	9.6	93	51	19	13	--	--	--	--
FORUM DRIVE	1063	24	13	3.1	1.2	--	--	--	--	100	26	21	17	110	32	32	11	87	48	16	12	--	--	--	--
FORUM DRIVE	1064	24	18	7.3	3.4	--	--	--	--	97	51	16	14	87	61	19	18	110	56	22	19	--	--	--	--
FORUM DRIVE	1065	23	17	2.5	0.96	--	--	--	--	93	40	22	12	120	70	22 J	16	85	35	15	12	--	--	--	--

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic,  
37 mg/kg for cadmium, 400 mg/kg for lead, and  
6,400 mg/kg for zinc.

" = inch(es) below ground surface

'--' = no data for depth interval or sample section

J = The analyte was positively identified; the associated  
numerical value is the approximate concentration of the  
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is a low estimation because of discrepancies in meeting  
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mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected  
above the reported sample quantitation limit, or the analyte  
concentration is less than five times the blank  
concentration

Table 3-1. Laboratory Analytical Results for  
Properties Less than 5,000 Square Feet  
Old American Zinc Plant Superfund Site

		Zinc (mg/kg)															
		Back				Front				Middle				Side			
Property Address	Property ID	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
KINGS HIGHWAY	1066	550	910	890	850	690	780	7.3 U	220	630	700	930	760	--	--	--	--
KINGS HIGHWAY	1067	710	390	200	170	630	910	470 J+	110	770	370	160	170	--	--	--	--
MAPLE AVENUE	301	610	630	3100	780	310	720	580	550	--	--	--	--	--	--	--	--
NORTH 61ST STREET	1007	330	150	150	180	200	160	170	210	--	--	--	--	210	130	66	190
FORUM DRIVE	1061	960	880	290	130	1300	1100	120	200	1000	1100	400 J-	73	--	--	--	--
FORUM DRIVE	1062	860	390	210	65	1300	470	160	72	1200	880	250	120	--	--	--	--
FORUM DRIVE	1063	1200	740	350	210	1300	710	380 J-	89	1200	730	280	110	--	--	--	--
FORUM DRIVE	1064	1100	960	510	97	860	900	250	210	1100	880	430	200	--	--	--	--
FORUM DRIVE	1065	1100	680	300	82	1300	1100	350 J-	160	1000	750	190	77	--	--	--	--

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic,  
37 mg/kg for cadmium, 400 mg/kg for lead, and  
6,400 mg/kg for zinc.

" = inch(es) below ground surface

'--' = no data for depth interval or sample section

J = The analyte was positively identified; the associated  
numerical value is the approximate concentration of the  
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J- = The analyte was positively identified; the quantitation  
is a low estimation because of discrepancies in meeting  
certain analyte-specific QC criteria

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected  
above the reported sample quantitation limit, or the analyte  
concentration is less than five times the blank  
concentration

Table 3-2. Laboratory Analytical Results for  
Properties Greater than 5,000 Square Feet

Old American Zinc Plant Superfund Site

		Arsenic (mg/kg)															
		A				B				C				D			
Property Address	Property ID	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
	078	7.1	8.3	7.3	6.9	8.3	8.1	7.7	6.9	9.3	8.9	8.7	6.6	12	13	8.4	7.9
	1070	9	52	38	9	9.6	12	9.4	13	12	11	12	9.7	8.1	8.9	10	8.9
	858	8.8	10	8.2	8.1	5.5	9.6	8.2	7.6	5.6	7.9	7.2	8.1	6.5	6.5	7.7	9.1
	1069	12	12	9.7	8.9	13	6.8	13	7.5	11	11	9.8	7.7	13	12	9.7	6.8
	220	7.3	6.4	9.9	9.7	9.3	8.9	9.7	8.3	8.4	9.8	10	9.1	9.2	10	8.9	8.9
	1068	10	7.9	8.8	7.1	5.2	6.1	11	10	9.3	8.7	6.6	6.2	9.6	9.9	8	6.3
	240	9	10	10	9.3	8.7	13	8	14	8.2	9.1	9.7	9.6	9.8	9	8.2	8.5
	1025	8.3	8.9	9.1	7.8	9.3	8.3	8	7.1	8	10	9.7	8.8	7.3	11	8.3	8.2
	1071	8.4	8.6	11	13	9.6	8.1	9	8.4	17	10	8.2	7.6	12	9.7	8.1	8.4
	836	4.2	7.9	10	7.3	4.2	6.9	19 J	7.4	2.3	8.8	9	5.1	12	13	11 J	5.6
	1058	5.2	6.7	6.3	6.9	3.3	5.2	6.5	7.2	6.7	5.9	6.9	6.2	9.9	10	8.6	7.1

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration.

Table 3-2. Laboratory Analytical Results for  
Properties Greater than 5,000 Square Feet

Old American Zinc Plant Superfund Site

		Cadmium (mg/kg)															
		A				B				C				D			
Property Address	Property ID	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
	078	3.5	3.1	1.2	0.35	4.8	3.9	1.5	0.72	5.2	4.2	1.7	0.67	5	3.4	1.6	1.6
	1070	5	17	15	3.1	4	35	9.6 J	1	14	13	13	2.5 J	1.9	3.2	7.8	5.1
	858	32	17	5.6	3.4	6.7	14	7.5	4.7	7.2	9.4	5.9	3.5	9.1	11	4.8	7.6
	1069	28	26	14	3.3	34	1.9	34	1.9	30	24	11	1.7	35	30	14	1.7
	220	1.9	2.2	4.8	3.4	4.5	3.6	4.9	1.3	4.3	5.3	3.8	2.7	4.8	5.1	1.9	1.1
	1068	29	12	10 J	6.9	4.7	8.8	25	18	9.5	13	6.9	1.2	26	20	21	2.3
	240	6.7	6.8	5	1.7	6.3	8.6	1.8	9.2	5.5	5.7	6.5	3.6	5	4.7	3	1.3
	1025	5.1	6.5	6.7	1.8	7.6	8.3	2.2	1.4	9.3	10	7.3	2.3	5.9	7.3	1.8	1.4
	1071	1.8	8.7	13	13	12	4.4	6.4	1.8	12	8.3	3 J	0.81	11	4.3	3.4	2.9
	836	3	21	22	28	4.4	16	12	8.6	5.8	50	19	6.6	29	36	44 J-	15
	1058	10	8.5	4.7	0.72	3.8	7.2	1.6	5	2.9	7.1	2.4	2.5	16	6.3	8.4	3

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration.

Table 3-2. Laboratory Analytical Results for Properties Greater than 5,000 Square Feet

Old American Zinc Plant Superfund Site

		Lead (mg/kg)															
		A				B				C				D			
Property Address	Property ID	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
	078	110	85	44	18	130	130	46	20	200	180	75	34	160	190 J	43	51
	1070	85	260	370	230	270 J	520	180	78	430	220	270	240 J	84	140	280	91
	858	160	120	29	32	61	110	67	42	65	74	45	32	90	71	100	26
	1069	110	97	36	23	120	13	120	15	130	82	44	15	150	110	52	15
	220	33	25	38	30	50	42	38	18	41	46	31	29	46	39	20	20
	1068	240	62	38 J	30	43	57	84	49	46	56	25	14	94	75	49	16
	240	68	57	26	19	66	75	21	61	51	45	42	23	53	36	26	18
	1025	71	56	62	22	75	83	29	25	200	140	82	31	73	460	24	40
	1071	61	140	190	360	160	180	180	28	310 J	110	47	13	230	130	57	58
	836	55	230	330	120	51	130	510 J	170 J	43	190	200	44	370	230	140	40
	1058	210	190	130	20	92	130	24	66	120	140	59	57	250	390	93	86

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration.

Table 3-2. Laboratory Analytical Results for Properties Greater than 5,000 Square Feet

Old American Zinc Plant Superfund Site

		Zinc (mg/kg)															
		A				B				C				D			
Property Address	Property ID	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0–6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
	078	320	320	170	99	370	340	220	110	540	450	240	120	650	460	200	200
	1070	470	1600	1400	840	410	1400	960	120	1200	1200	1100	330 J	230	290	730	370
	858	1000	710	440	450	410	590	540	370	480	480	440	320	610	560	250	350
	1069	1100	1000	540	190	1200	260	1200	150	1100	1000	600	170	1700	1300	740	160
	220	150	130	240	190	290	220	230	120	250	260	200	160	250	240	150	110
	1068	2400	530	590 J	510	280	370	970	880	580	940	560	160	1200	950	1100	170
	240	380	360	310	240	310	400	200	370	320	300	310	280	290	270	190	120
	1025	370	390	420	200	440	510	230	190	540	550	440	300	380	530	240	140
	1071	240	560	840	950	730	380	600	190	780	550	280	100	880	480	420	420
	836	380	1500	1800	1500	340	770	1100	1400	450	2800	1700	1100	2200	2000	1500 J	1000
	1058	600	600	350	94	330	430	150	300	280	450	200	270	830	400	420	270

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/kg = milligram(s) per kilogram

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration.

Table 3-3. Laboratory Analytical Results for Properties Greater than 1 acre  
Old American Zinc Plant Superfund Site

	2975 KINGS HIGHWAY (1059)																FORUM DRIVE (1060)			
	Arsenic (mg/kg)				Cadmium (mg/kg)				Lead (mg/kg)				Zinc (mg/kg)				Arsenic (mg/kg)			
Section	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
A	9.6	7.9	9.4	9.5	39	15 J	21	1.8	130	71 J	54 J	19	1800	800 J	910	150	7	6.9	6.6	7.1
B	9.5	11	8.8	6.9	44	45	5.6	0.96	150	160	24	12	1700	1700	390	230	7.7	6.3	6.7	5.8
C	14	12	7	10	66	43	18	27	230	65	38 J	110	2400	2000	1400	1200	9	9.6	6.5	6.2
D	11	16	7.3	5.7	68	81	27	6.8	220	370	41	11	2900	3300	1600	1000	19	11	8.7	5.8
E	15	14	7.3	7.2	91	75	20	4.5	300	260	19	22	3700	3300	1200	640	7.6	7.7	6.6	5.9
F	14	9.6	8.6	8.8	99	51	26	4.7	480	130	30	19	2800	2100	2000	760	6.1	6.1 J-	5.3	7.7
G	9.8	10	8.5	8	45	41	9.1	2.3	150	130	25	19	1900	1700	550	180	5.4	5.9	6.3	6.8
H	17	9.8	9.2	7.7	97	45	33	7.5	400	57	27	13	2700	1700	1800	930	10	9.3	9.4	10
I	9.3	10	7.9	8	37	36	16	2.7	130	120	19	17	1400	1400	800	390	8.1	11	12	7.8
J	10	8.6	7.9	7.3	41	31	11	1.4	150	57	55	18	1800	1300	720	150	8.5	9	11	7.8
K	12	10	8.2	7.4	62	53	12	3.8	230	150	29	17	2600	2100	660	310 J+	7.3	7.2	6.5	7.9
L	8.4	10	7.1	7.3	34	39	3.2	0.81	130	130	15	14	1500	1600	320	92	6.5	6.8	6.8	6.9
M	7.7	8.9	7.2	8.8	40	40	9.7	0.85	150	120	45	16 J+	1900	1900	560	90	4.9	7.8	5.1	4.8
N	11	9.9	7.7	7	50	48	14	3.9	220	220	32	17	2300	2300	840	320				
O	13	9	7.9	6.5	67	40	18	8.5	230	77	58	15	2900	1800	1100	610				
P	13	9	6.8	7.2	67	51	17	16	250	98	27	27	2200	1200	1000	780				
Q	12	14	8.6	9	38	43	6.8	1.6	150	200	27	20	1700	2000	520	210				
R	8.1	9.4	9.1	7.7	46	49	4.8	1.2	190	190	27	15	2000	2000	350	140				
S	8.2	9.5	9.3	6.3	39	55	45	5.2	200	220	120	19	2100	2800	2000	300				
T	9.8	11	6.9	6.9	35	35	5.8	2.7	160	120	23	18	1500	1300	430	450				
U	5.7	8.9	8.2	7.3	16	29	15	2.7	85	90	48	20	760	1100	680	180				

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

J+ = The analyte was positively identified; the quantitation is a high estimation because of discrepancies in meeting certain analyte-specific QC criteria

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration

mg/kg - milligram(s) per kilogram



Table 3-3. Laboratory Analytical Results for Properties Greater than 1 acre  
Old American Zinc Plant Superfund Site

	FORUM DR												
		Lead (mg/kg)								Zinc (mg/kg)			
Section	0 – 6"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"	0 – 6"	6 – 12"	12 – 18"	18 – 24"
A	9.6	8.9	5.1	8	21	59	38	40	59	530	320	400	740
B	9.5	16 J	4.2 J	3.7	2.8	71 J	27 J	26	17	910	290 J	260	150
C	14	30	23	4	0.81	120	110	16	12	1300	1200	210	92
D	11	16	20	27	8.2	73	70	95	18	770	830	1100	530
E	15	21	26	20 J+	12	130	130	75	36	1000	1100	790	620
F	14	7.4	10	13	20	61	72	78	56	470	490	590	820
G	9.8	4.8	7.2	13	16	37	30	51	58	290	390	600	680
H	17	31	29	25	24	160	100	82	100	1300	1200	1200	1100
I	9.3	22	30	11	5.8	94	100	52	27	1000	1400	890	800
J	10	20	32	31	10	110	100	110	50	960	1200	1400	720
K	12	21	29	22	7.4	110	110	71	24	970	1100	870	620
L	8.4	18	19	16	7.1	85	71	58	18	820	810	700	410
M	7.7	12	19	14	7.7	53	64	25	16	500	750	630	290
N	11												
O	13												
P	13												
Q	12												
R	8.1												
S	8.2												
T	9.8												
U	5.7												

Notes:

Results equal to or exceeding the cleanup levels are shaded.

Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

" = inch(es) below ground surface

'-' = no data for depth interval or sample section

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

J+ = The analyte was positively identified; the quantitation is a high estimation because of discrepancies in meeting certain analyte-specific QC criteria

U = The analyte was analyzed for but was not detected above the reported sample quantitation limit, or the analyte concentration is less than five times the blank concentration

mg/kg - milligram(s) per kilogram

**Table 3-4. Summary of Soil Results on a Per-Sample Basis**

*Old American Zinc Plant Superfund Site*

	<b>Arsenic</b>	<b>Cadmium</b>	<b>Lead</b>	<b>Zinc</b>
Residential Samples Analyzed	416	416	416	416
Residential Samples Exceeding Cleanup Levels	2	36	7	0
Residential Range of Concentrations (mg/kg)	1.2 – 52	0.35 – 99	1.2 – 560	7.3 – 3,700
Residential Average Concentration (mg/kg)	8.7	14	88	740

Notes:

Tables 3-1, 3-2, 3-3, and 3-4 include soil results for properties sampled.

This table includes 604 primary samples collected in 2019. The greater of a normal or field duplicate result was used in these calculations.

Cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

mg/kg = milligram(s) per kilogram

**Table 3-5. Summary of Soil Results on a Per-Property Basis**

*Old American Zinc Plant Superfund Site*

	<b>Arsenic</b>	<b>Cadmium</b>	<b>Lead</b>	<b>Zinc</b>
Residential Properties Analyzed	22	22	22	22
Residential Properties Exceeding Remediation Goal	1	2	5	0
Total Properties Exceeding Remediation Goals: 5				

Notes:

Tables 3-1, 3-2, 3-3, and 3-4 include soil results for properties sampled.

This table includes 604 primary samples collected in 2019. The greater of a normal or field duplicate result was used in these calculations.

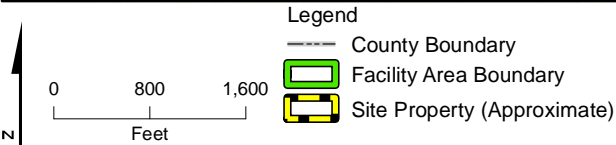
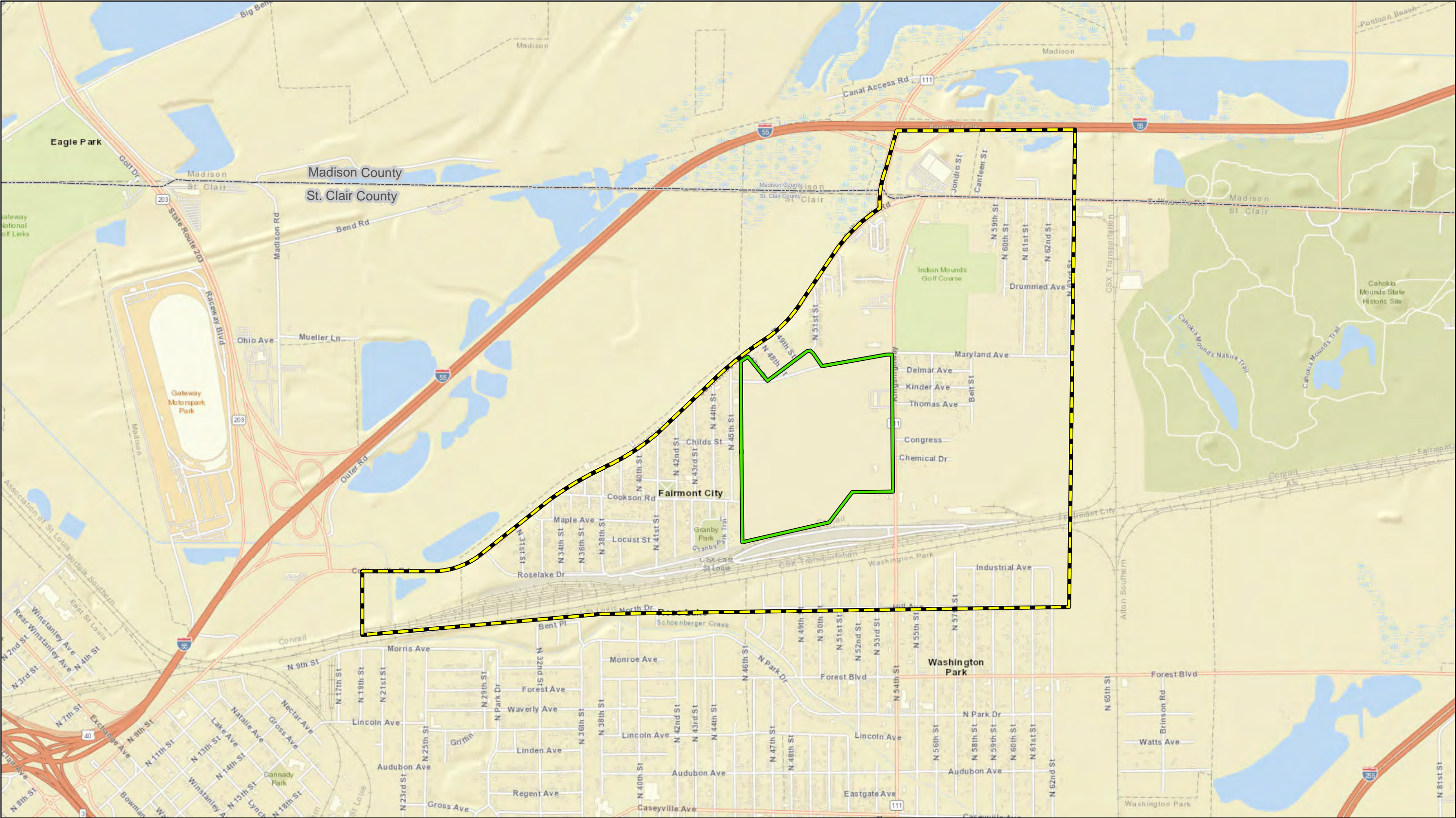
Residential cleanup levels are 32 mg/kg for arsenic, 37 mg/kg for cadmium, 400 mg/kg for lead, and 6,400 mg/kg for zinc.

**Table 4-1. Properties Above Cleanup Levels***Old American Zinc Plant Superfund Site*

Property Address	Unique ID	Number of Parcels	Parcel ID	Arsenic Exceedance	Cadmium Exceedance	Lead Exceedance	Zinc Exceedance
████████████████████	1070	1	02-04.0-313-081	x		x	
████████████████████	1059	1	02-04.0-203-096		x	x	
████████████████████	301	1	02-08.0-205-084			x	
████████████████████	1025	1	17-2-20-34-03-301-019			x	
████████████████████	836	1	02-04.0-309-001		x	x	

## Figures

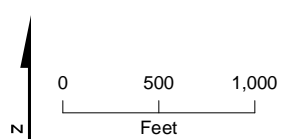
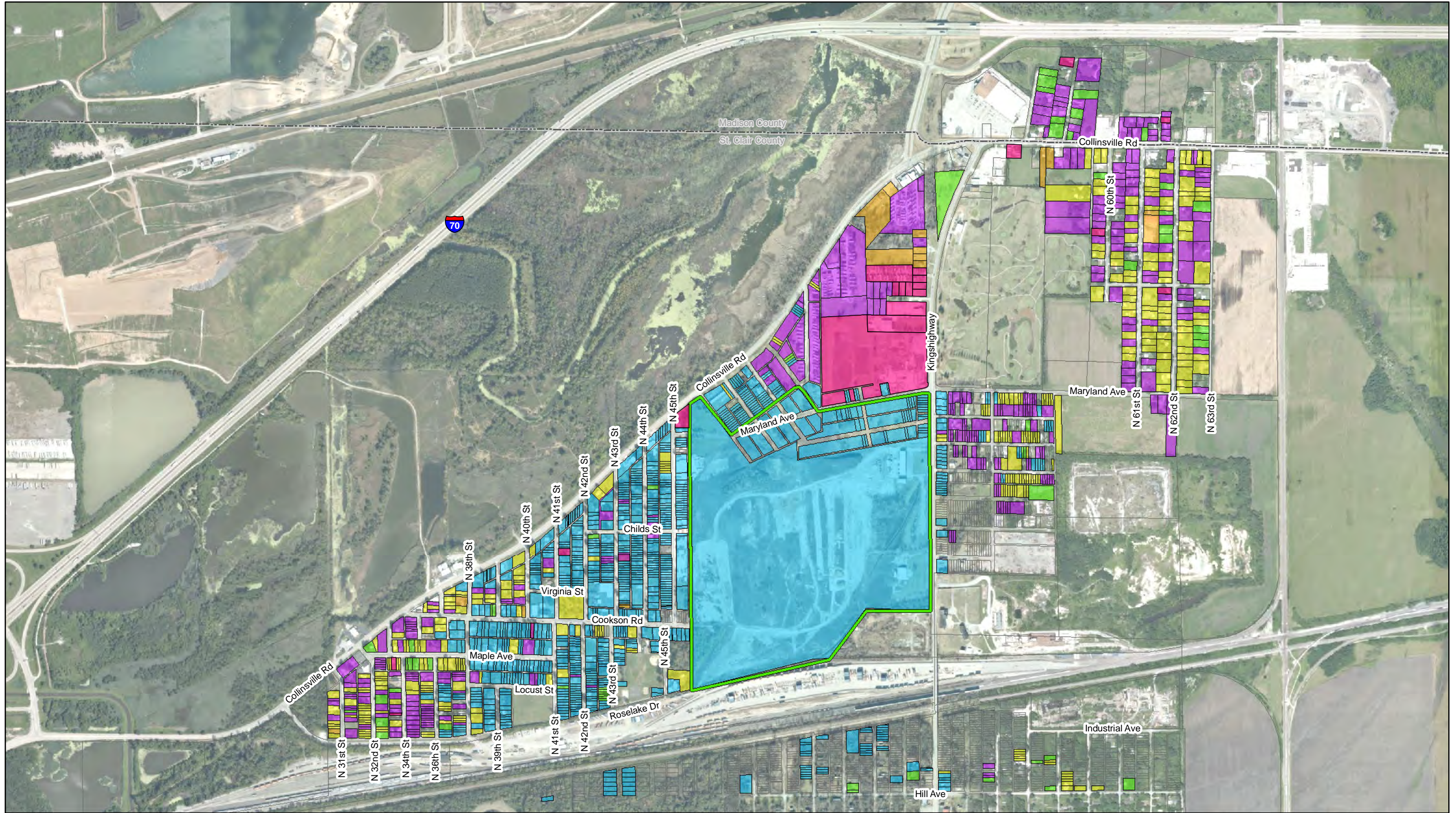




Notes:  
1. Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and

Figure 1  
Site Map  
Old American Zinc Plant Superfund Site  
Fairmont City, St. Clair County, Illinois





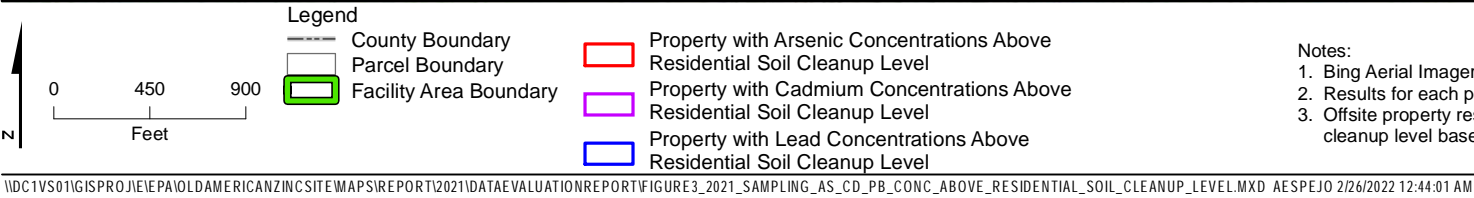
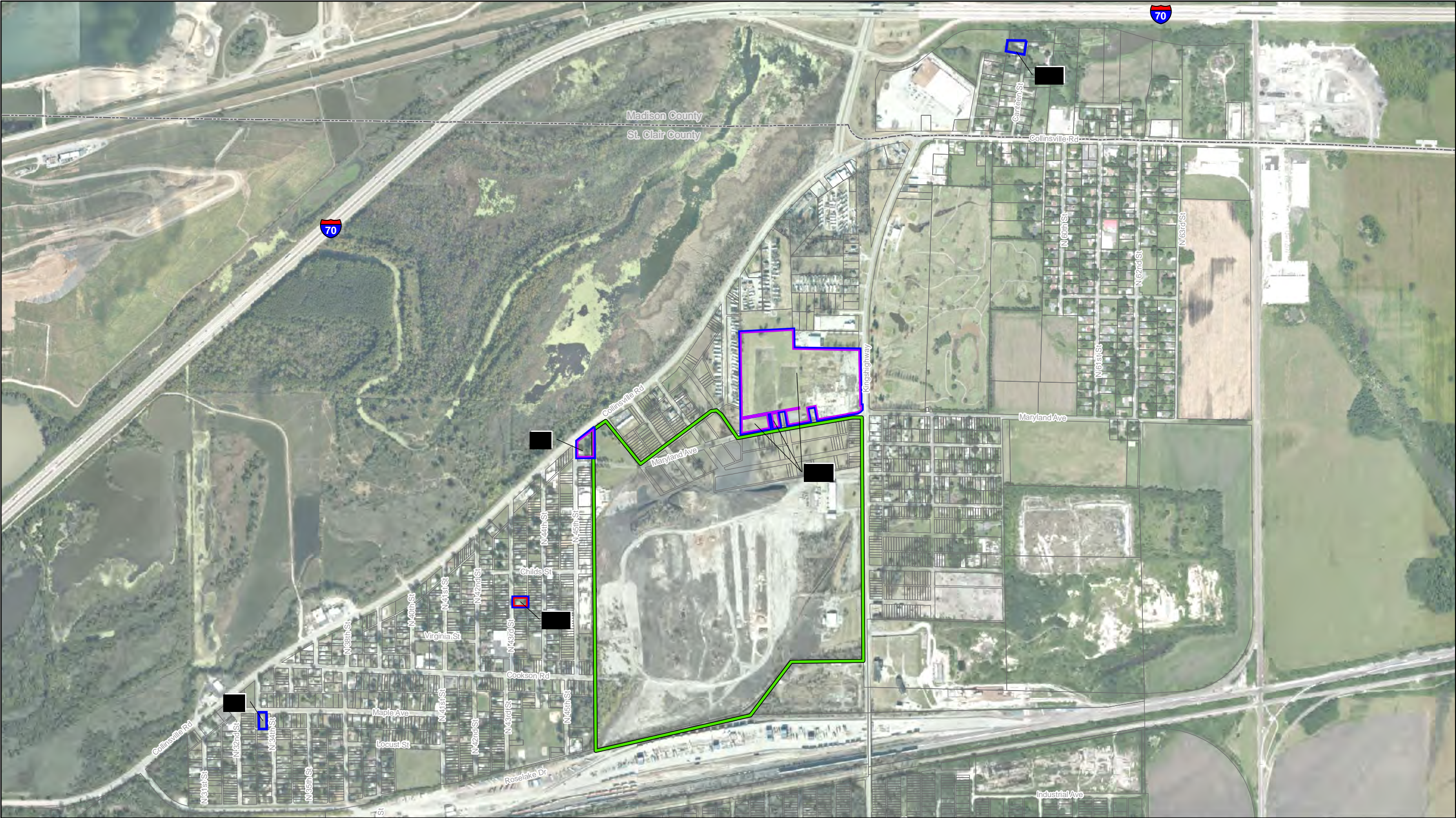
Legend

- County Boundary
- Parcel Boundary
- 2017 CH2M Sampled Property
- 2018 CH2M Sampled Property
- 2019 CH2M Sampled Property
- 2020 CH2M Sampled Property
- 2021 CH2M Sampled Property
- Entact Sampled Property
- Facility Area Boundary

Note:  
Bing Aerial Imagery, 2021.

**Figure 2**  
*CH2M and Entact Sampled Properties,  
through March 2022*  
Old American Zinc Plant Superfund Site  
Fairmont City, St. Clair County, Illinois





**Figure 3**  
2021 Sampling - Arsenic, Cadmium, and Lead Concentrations Above Residential Soil Cleanup Level  
Old American Zinc Plant Superfund Site  
Fairmont City, St. Clair County, Illinois



**Attachment 1**  
**Data Quality Evaluation**



# Memorandum

CH2M HILL, Inc.  
9191 S. Jamaica Street  
Englewood, CO 80112-5946

---

**Subject:** Data Quality Evaluation for Old American Zinc Plant Superfund Site Investigation 2021

**Project Name:** Old American Zinc Plant Superfund Site

**Attention:** Sheila Desai/U.S. Environmental Protection Agency (EPA)

**From:** CH2M HILL, Inc. (CH2M)

**Date:** March 14, 2022

**DCN:** FES0310222235MKE

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## 1. Introduction

The objective of this data quality evaluation (DQE) report is to assess the data quality of analytical results for soil samples collected from the Old American Zinc Plant Superfund Site in Fairmont City, Illinois. CH2M collected soil samples November 29 to December 5, 2021. Guidance for this DQE report came from the *Old American Zinc Plant Superfund Site, Remedial Design Surrounding Area Support Quality Assurance Project Plan (QAPP)* (CH2M, 2021); the U.S. Environmental Protection Agency (EPA) *Contract Laboratory National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review, November 2020*.

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) as presented in the QAPP. This report is intended as a general data quality assessment designed to summarize data issues.

## 2. Analytical Data

This DQE report covers 416 native soil samples, 40 field duplicates (FDs), 20 matrix spike samples (MS), and 7 aqueous equipment blanks (EBs). The samples were reported in 26 sample delivery groups listed in Table 1. Samples were analyzed through the EPA Contract Laboratory Program. The samples were analyzed for arsenic, cadmium, lead, and zinc by Method SFAM01.1.

The sample delivery groups were assessed by reviewing the following:

- Chain-of-custody documentation
- Holding-time compliance
- Initial and continuing calibration criteria
- Method blanks/field blanks
- Laboratory control spike sample (LCS) recoveries
- MS recoveries and precision
- FD precision

- Required quality control (QC) samples at the specified frequencies

Data validation flags were assigned according to the project QAPP. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data validation flags are defined as follows:

- J = Estimated: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ = Estimated high: The analyte was positively identified; the quantitation is a high estimation because of discrepancies in meeting certain analyte-specific QC criteria.
- J- = Estimated low: The analyte was positively identified; the quantitation is a low estimation because of discrepancies in meeting certain analyte-specific QC criteria.
- U = Undetected: The analyte was analyzed for but not detected, or is qualified as a nondetect because of blank contamination.

### **3. Findings**

The overall summaries of the data validation are contained in the following subsections. Table 2 presents qualified data.

#### **3.1 Holding Time/Preservation**

All acceptance criteria were met.

#### **3.2 Calibration**

Initial and continuing calibration analyses were performed as required by the method, and acceptance criteria were met, with the following exceptions:

- Arsenic was detected at concentrations less than the reporting limit (RL) in a few initial calibration blanks. The data were not qualified because the associated sample concentrations were greater than the reporting limit and respective blank concentrations.
- Cadmium, lead, or zinc were detected at concentrations less than or greater than the RL in several continuing calibration blanks. The data were not qualified because the associated sample concentrations were either greater than the reporting limits and respective blank concentrations or not detected.

#### **3.3 Method Blanks**

Method blanks were analyzed at the required frequency and were free of contamination, with the following exceptions:

- Arsenic, cadmium, lead, or zinc were detected at concentrations less than the RL in several method blanks. The data were not qualified because the associated sample concentrations were greater than the reporting limits and respective blank concentrations.

### **3.4 Laboratory Control Samples**

LCSs were analyzed as required, and all accuracy and precision criteria were met.

### **3.5 Matrix Spike**

MS samples were analyzed as required, and all accuracy criteria were met, with the following exceptions:

- Arsenic, cadmium, or zinc were recovered less than the lower control limits in the MSs for several samples, indicating a possible low bias. The data were qualified as estimated detected results and flagged “J-” in the respective parent samples.
- Arsenic, cadmium, lead, or zinc were recovered greater than the upper control limits in several MSs, indicating a possible high bias. The result was qualified as estimated and flagged “J+” in the respective parent samples.
- There were several instances where the MS for lead or zinc did not meet control limits due to concentrations in the parent samples being greater than four times the spike concentration. The associated data were not qualified.

### **3.6 Serial Dilutions**

Serial dilutions were analyzed as required, and precision criteria were met with the following exception:

- The relative percent difference (RPD) exceeded criteria for zinc in the serial dilution for sample EXDD2. The result was qualified as estimated and flagged “J” in the parent sample.

### **3.7 Post-Digestion Spikes**

Post-digestion spikes (PDS) were analyzed as required, and accuracy criteria were met.

### **3.8 Interference Check Standards**

Interference check standards (ICS) were analyzed at the required frequency, and all acceptance criteria were met.

### **3.9 Field Duplicates**

FDs were collected as required, and precision criteria were met, with the following exceptions:

- There were several instances where the RPDs for arsenic, cadmium, lead, or zinc exceeded control limits in the FD pairs. The data were qualified as estimated detected results and flagged “J” in the respective FD pairs.

### **3.10 Laboratory Duplicates**

Laboratory duplicates were performed as required by the method, and precision criteria were met with the following exceptions:

- There were several instances where the RPDs for arsenic, cadmium, lead, or zinc exceeded control limits in the laboratory duplicate samples. The data were qualified as estimated detected results and flagged “J” in the respective parent samples.

### **3.11 Equipment Blanks**

EBs were collected, analyzed, and were free of contamination with the following exception:

- Zinc was detected at concentrations less than the RL in a few EBs. The data were not qualified because the associated sample concentrations were greater than the reporting limit and respective blank concentrations.

### **3.12 Chain of Custody**

Required procedures were followed and were free of errors.

## **4. Overall Assessment**

The goal of this assessment is to demonstrate that a sufficient number of representative samples was collected, and the resulting analytical data can be used to support the decision-making process. The following summary highlights the PARCC findings for the previously defined events:

- Precision of the data was verified through the review of the field and laboratory data quality indicators that include FD, laboratory duplicate, and serial dilution RPDs. Precision was acceptable; however, a total of 49 results for arsenic, cadmium, lead, or zinc, out of 1,824 results analyzed, were qualified as estimated concentrations due to FD, laboratory duplicate, or serial dilution RPD issues. Data users should consider the impact to any result that is qualified as estimated as it may contain a bias that could affect the decision-making process.
- Accuracy of the data was verified through the review of the calibration data, LCS, MS, ICS, and PDS recoveries, as well as the review of method/calibration/equipment blank data. Accuracy was acceptable; however, 15 results for arsenic, cadmium, lead, or zinc were qualified as estimated concentrations due to MS issues. Arsenic, cadmium, lead, or zinc were detected in several calibration, equipment, or method blanks at concentrations less than or greater than the RL; however, the data were not qualified because the associated sample concentrations were greater than the RLs and respective blank concentrations or were not detected.
- Representativeness of the data was verified through the sample’s collection, storage, and preservation procedures and the verification of holding-time compliance. The laboratory did not note any issues related to sample preservation or storage of the samples. All data were reported from analyses within the EPA-recommended holding time.
- Comparability of the data was ensured through the use of standard EPA analytical procedures. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.
- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable

measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The completeness goal of 90% was met for all analytes.

**Table 1. Sample Delivery Groups**

*Old American Zinc Plant Superfund Site, Fairmont City, Illinois*

EXCM3	EXCX3	EXD50	EXDB9	EXDL2	EXDS8	EXE09
EXCP3	EXCZ3	EXD70	EXDD9	EXDL8	EXDW8	EXE29
EXCR3	EXD13	EXD90	EXDG8	EXDN8	EXDY5	
EXCT3	EXD30	EXD99	EXDJ8	EXDQ8	EXDY9	



## Data Quality Evaluation for Old American Zinc Plant Superfund Site Investigation 2021

**Table 2. Data Qualification Summary**

*Old American Zinc Plant Superfund Site, Fairmont City, Illinois*

Address	Location ID	Sample ID	Analyte	Final Result	Units	Validation Flag	Validation Reasons
	FD-004-20211201	EXD13	Lead	190	mg/kg	J	FD>RPD
	OAZ-078D-06/12	EXD12	Lead	100	mg/kg	J	FD>RPD
	FD-001-20211201	EXCY5	Lead	130	mg/kg	J	FD>RPD
	OAZ-1070B-00/06	EXCY4	Lead	270	mg/kg	J	FD>RPD
	OAZ-1070B-12/18	EXCY8	Cadmium	9.6	mg/kg	J-	MS<LCL
	OAZ-1070C-18/24	EXCZ3	Cadmium	2.5	mg/kg	J	LabDupRPD
	OAZ-1070C-18/24	EXCZ3	Lead	240	mg/kg	J	LabDupRPD
	OAZ-1070C-18/24	EXCZ3	Zinc	330	mg/kg	J-	LabDupRPD, MS<LCL
	FD-002-20211202	EXD61	Cadmium	15	mg/kg	J	FD>RPD
	FD-002-20211202	EXD61	Lead	71	mg/kg	J	FD>RPD
	FD-002-20211202	EXD61	Zinc	800	mg/kg	J	FD>RPD
	OAZ-1059A-06/12	EXD60	Cadmium	5.3	mg/kg	J	FD>RPD
	OAZ-1059A-06/12	EXD60	Lead	25	mg/kg	J	FD>RPD
	OAZ-1059A-06/12	EXD60	Zinc	310	mg/kg	J	FD>RPD
	OAZ-1059A-12/18	EXD62	Lead	54	mg/kg	J	LabDupRPD
	OAZ-1059C-12/18	EXD70	Lead	38	mg/kg	J	LabDupRPD
	OAZ-1059K-18/24	EXDD2	Zinc	310	mg/kg	J+	MS>UCL, SerDil
	OAZ-1059M-18/24	EXDB0	Lead	16	mg/kg	J+	MS>UCL
	OAZ-1068A-12/18	EXDH2	Cadmium	10	mg/kg	J	LabDupRPD

## Data Quality Evaluation for Old American Zinc Plant Superfund Site Investigation 2021

**Table 2. Data Qualification Summary**

*Old American Zinc Plant Superfund Site, Fairmont City, Illinois*

Address	Location ID	Sample ID	Analyte	Final Result	Units	Validation Flag	Validation Reasons
	OAZ-1068A-12/18	EXDH2	Lead	38	mg/kg	J	LabDupRPD
	OAZ-1068A-12/18	EXDH2	Zinc	590	mg/kg	J	LabDupRPD
	FD-008-20211204	EXDT8	Cadmium	9.8	mg/kg	J	FD>RPD
	OAZ-1067F-06/12	EXDT7	Cadmium	17	mg/kg	J	FD>RPD
	OAZ-1067F-12/18	EXDT9	Cadmium	12	mg/kg	J	LabDupRPD
	OAZ-1067F-12/18	EXDT9	Lead	35	mg/kg	J	LabDupRPD
	OAZ-1067F-12/18	EXDT9	Zinc	470	mg/kg	J+	LabDupRPD, MS>UCL
	FD-005-20211201	EXD33	Lead	310	mg/kg	J	FD>RPD
	OAZ-1071C-00/06	EXD32	Lead	130	mg/kg	J	FD>RPD
	OAZ-1071C-12/18	EXD36	Cadmium	3	mg/kg	J	LabDupRPD
	FD-002-20211204	EXDK4	Arsenic	7	mg/kg	J	FD>RPD
	FD-002-20211204	EXDK4	Lead	280	mg/kg	J	FD>RPD
	OAZ-836B-12/18	EXDK3	Arsenic	19	mg/kg	J	FD>RPD
	OAZ-836B-12/18	EXDK3	Lead	510	mg/kg	J	FD>RPD
	OAZ-836B-18/24	EXDK5	Arsenic	7.4	mg/kg	J+	LabDupRPD, MS>UCL
	OAZ-836B-18/24	EXDK5	Lead	170	mg/kg	J	LabDupRPD
	OAZ-836D-12/18	EXDL2	Arsenic	11	mg/kg	J	LabDupRPD
	OAZ-836D-12/18	EXDL2	Cadmium	44	mg/kg	J-	MS<LCL
	OAZ-836D-12/18	EXDL2	Zinc	1500	mg/kg	J	LabDupRPD

**Table 2. Data Qualification Summary***Old American Zinc Plant Superfund Site, Fairmont City, Illinois*

Address	Location ID	Sample ID	Analyte	Final Result	Units	Validation Flag	Validation Reasons
FORUM DR	FD-003-20211204	EXDM6	Cadmium	16	mg/kg	J	FD>RPD
FORUM DR	FD-003-20211204	EXDM6	Lead	71	mg/kg	J	FD>RPD
FORUM DR	FD-004-20211204	EXDM8	Cadmium	1.8	mg/kg	J	FD>RPD
FORUM DR	FD-004-20211204	EXDM8	Lead	13	mg/kg	J	FD>RPD
FORUM DR	FD-004-20211204	EXDM8	Zinc	130	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060B-00/06	EXDM5	Cadmium	8.1	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060B-00/06	EXDM5	Lead	39	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060B-06/12	EXDM7	Cadmium	4.2	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060B-06/12	EXDM7	Lead	27	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060B-06/12	EXDM7	Zinc	290	mg/kg	J	FD>RPD
FORUM DR	OAZ-1060E-12/18	EXDQ1	Cadmium	20	mg/kg	J+	MS>UCL
FORUM DR	OAZ-1060F-06/12	EXDQ8	Arsenic	6.1	mg/kg	J-	MS<LCL
FORUM DR	OAZ-1061M-12/18	EXE29	Arsenic	9.5	mg/kg	J	LabDupRPD
FORUM DR	OAZ-1061M-12/18	EXE29	Zinc	400	mg/kg	J-	MS<LCL
FORUM DR	OAZ-1063F-12/18	EXDZ9	Cadmium	5.2	mg/kg	J-	MS<LCL
FORUM DR	OAZ-1063F-12/18	EXDZ9	Zinc	380	mg/kg	J-	MS<LCL
FORUM DR	OAZ-1065F-12/18	EXDW9	Arsenic	7.1	mg/kg	J-	MS<LCL
FORUM DR	OAZ-1065F-12/18	EXDW9	Cadmium	6.2	mg/kg	J-	LabDupRPD, MS<LCL
FORUM DR	OAZ-1065F-12/18	EXDW9	Lead	22	mg/kg	J	LabDupRPD

**Table 2. Data Qualification Summary**

*Old American Zinc Plant Superfund Site, Fairmont City, Illinois*

Address	Location ID	Sample ID	Analyte	Final Result	Units	Validation Flag	Validation Reasons
FORUM DR	OAZ-1065F-12/18	EXDW9	Zinc	350	mg/kg	J-	LabDupRPD, MS<LCL

Validation Reasons:

FD>RPD	The RPD between the parent sample and FD exceeded QC criteria.
LabDupRPD	The RPD between the parent sample and laboratory duplicate exceeded QC criteria.
MS>UCL	The matrix spike recovery was greater than the upper control limit.
MS<LCL	The matrix spike recovery was less than the lower control limit.
SerDil	The RPD between the parent sample and serial dilution exceeded method criteria.

**Attachment 2**  
**Photo Log**

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<b>Project Title</b>	<b>Data Evaluation Report, 2021 Residential Soil Sampling</b>
<b>Location</b>	Old American Zinc Plant Superfund Site, Fairmont City, St. Clair County and Madison County,
<b>Date</b>	Illinois March 14, 2022

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**Photograph 1: Temporary decontamination set up.**



**Photograph 2: Yard showing utility markings.**





**Photograph 3: Yard showing sampling flags.**



**Photograph 4: Sampling set up.**



**Photograph 5: Sampling set up.**



**Photograph 6: Sampling set up at yard section G of a property.**





**Photograph 7: Sampling set up at yard section F of a property.**



**Photograph 8: Sampling set up at yard section R of a property.**



**Photograph 9: Utility markings.**



**Photograph 10: Utility markings and decontamination staging.**



**Photograph 11: Utility markings and decontamination staging.**



**Photograph 12: Utility markings.**





**Photograph 13: Utility markings.**



**Photograph 14: Utility markings at yard section B of a property.**



**Attachment 3**  
**Field Logbooks**

Location Fairmont City, ILDate 12/1/21Project / Client OAZ

(078)

Station ID  $\rightarrow$  078132' x 75'  $\rightarrow$  99.00 ft<sup>2</sup>1030 Arrive [REDACTED]  $\rightarrow$  Sample ABCD

1040 OAZ-078A-00/06

1045 OAZ-078A-06/12

1050 OAZ-078A-12/18

1055 OAZ-078A-18/24

1100 OAZ-078B-00/06

1105 OAZ-078B-06/12

1110 OAZ-078B-12/18

1115 OAZ-078B-18/24

1120 OAZ-078C-00/06

1125 OAZ-078C-06/12

1130 OAZ-078C-12/18

1135 OAZ-078C-18/24

1140 OAZ-078D-00/06 w/FO @ 1141

1145 OAZ-078D-06/12 w/FO @ 1146

1150 OAZ-078D-12/18 w/MS

1155 OAZ-078D-18/24

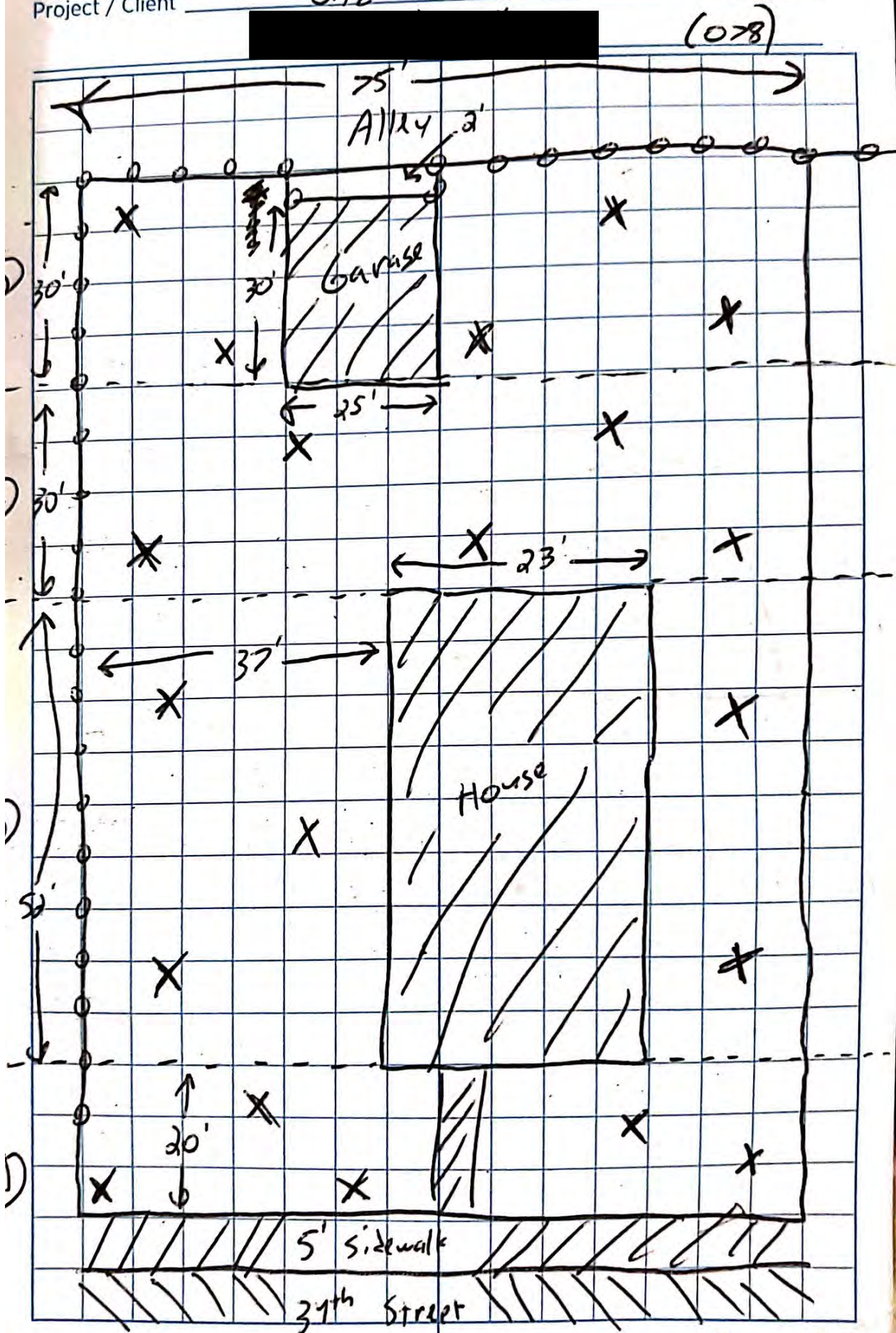
1215 personnel off site for lunch after completely  
backfilling all holes

12/1/21



Location Fairmont City, IL Date 12/1/21 17

Project / Client OAZ



*Plot in the Rain.*



Location Fairmont City, ILDate 12/1/21

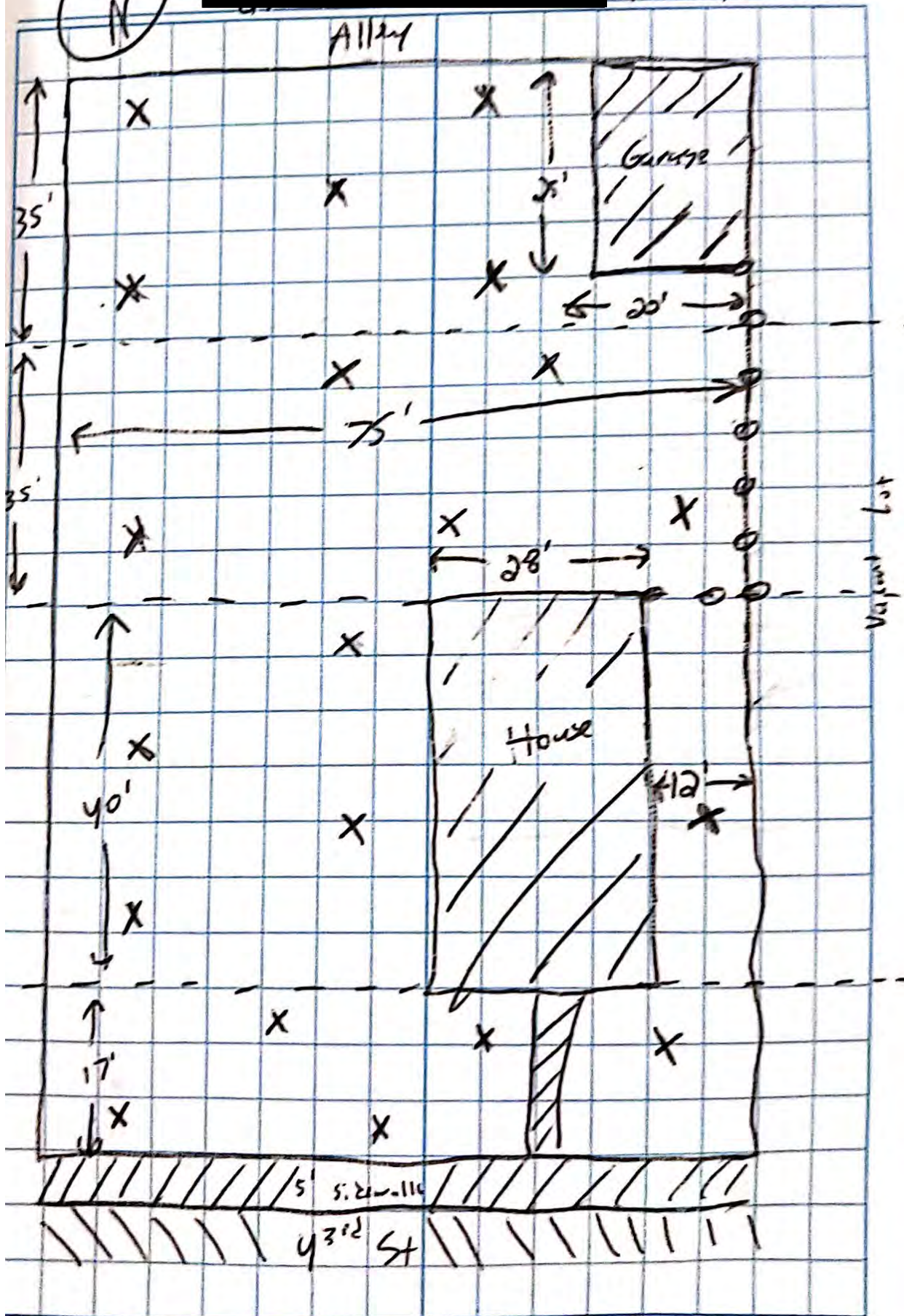
Project / Client

OAZSR(1070)personnel: Z. Dolbear, K. Smith, M. Kelley, K. Hallweather: 44/63°F, cloudyStation IO → 1070127' x 75' = 9,525 ft<sup>2</sup>0745 personnel on site → PTSP, HASP review0800 setup to sample property of ABCP0820 OAZ-1070A-00/060825 OAZ-1070A-06/120830 OAZ-1070A-12/180835 OAZ-1070A-18/240840 FB03A from clean head casing0845 OAZ-1070B-00/06 w/ FD @ 08460850 OAZ-1070B-06/12 w/ FD @ 08510855 OAZ-1070B-12/18 w/ MS0900 OAZ-1070B-18/240925 OAZ-1070C-00/060930 OAZ-1070C-06/120935 OAZ-1070C-12/180940 OAZ-1070C-18/240945 OAZ-1070D-00/060950 OAZ-1070D-06/120955 OAZ-1070D-12/181000 OAZ-1070D-18/241010 personnel off property after complete backfilling  
all holes12/1/21



Location Fairmont City, IL Date 12/1/21 15

Project / Client OAZ  
[Redacted] (1070)

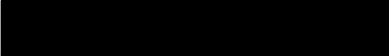


*Plot in the Plan*



Location Fairmont City, ILDate 11/30/21Project / Client OAZStation ID  $\rightarrow$  858

$$130' \times 75' = 9750 \text{ ft}^2$$

1400 Arrive @   $\rightarrow$  sample ABCD

1430 OAZ-858A-00/06 w/ ER @ 1431

1435 OAZ-858A-06/12 w/ FD @ 1436

1440 OAZ-858A-12/18

1445 OAZ-858A-18/24

1450 OAZ-858B-00/06

1455 OAZ-858B-06/12

1500 OAZ-858B-12/18

1505 OAZ-858B-18/24

1520 OAZ-858C-00/06

1525 OAZ-858C-06/12

1530 OAZ-858C-12/18

1535 OAZ-858C-18/24

1545 OAZ-858D-00/06

1550 OAZ-858D-06/12

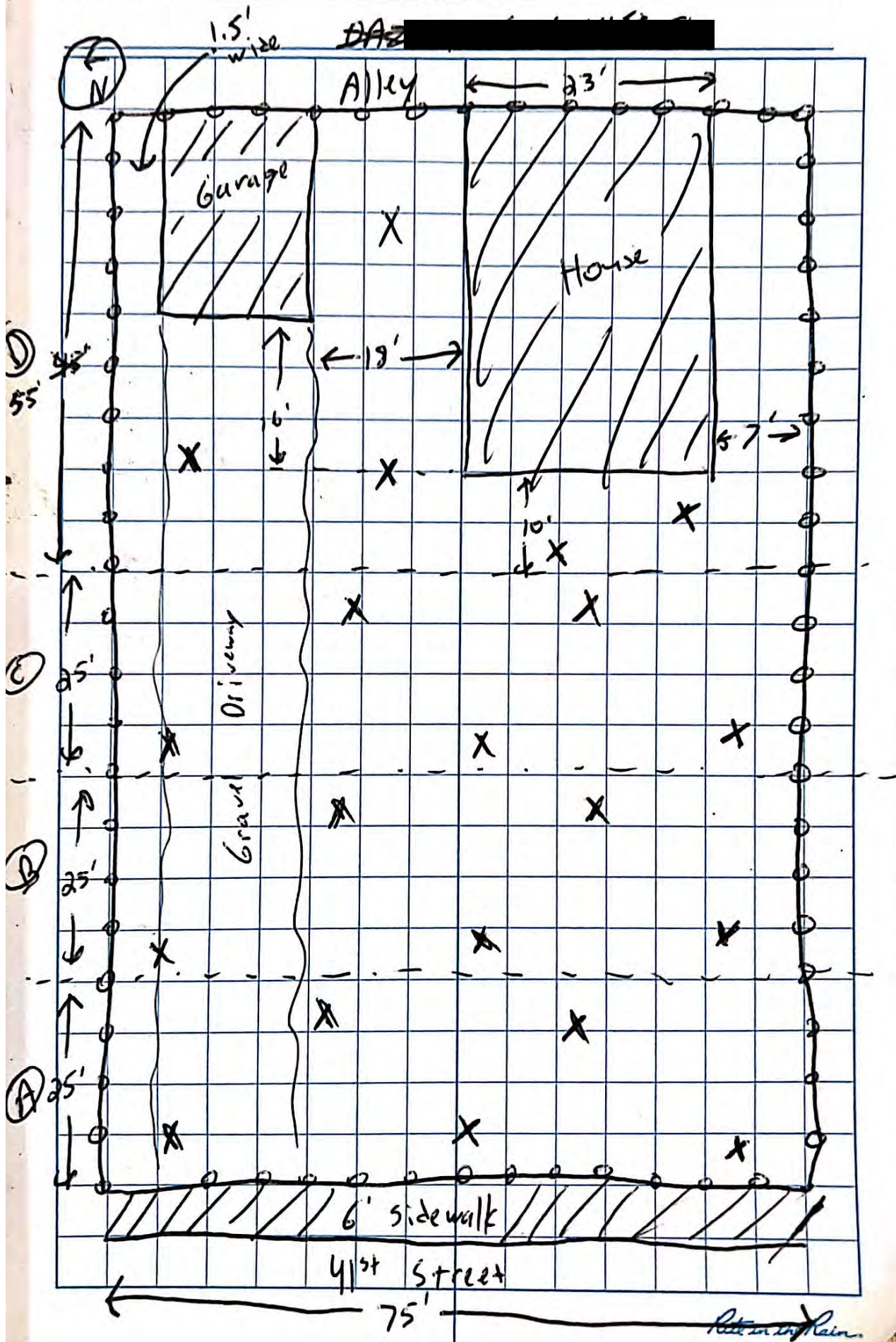
1555 OAZ-858D-12/18

1600 OAZ-858D-18/24

1630 personnel off site after completely  
backfilling all holes.

11/30/21



Location Fairmont City, IL Date 11/30/21Project / Client OAZ



Location Fairmont City, ILDate 12/2/21Project / Client OAZ

(1059)

Station ID → 1059

Dimensions → 64 acres → sample 45 2' sections

★ See Sample Scheme Figure markup for  
Section Areas.

1030 setup to sample property. Guy from  
the city stops by w/ tractor to mow →  
till him to wait two days.

1100	OAZ-1059A-00/06	w/ <u>FD</u> @ 1101
1105	OAZ-1059A-06/12	w/ <u>FD</u> @ 1106
1110	OAZ-1059A-12/18	w/ <u>MS</u>
1115	OAZ-1059A-18/24	

1125	OAZ-1059B-00/06
1130	OAZ-1059B-06/12
1135	OAZ-1059B-12/18
1140	OAZ-1059B-18/24

1200	OAZ-1059C-00/06
1205	OAZ-1059C-06/12
1210	OAZ-1059C-12/18
1215	OAZ-1059C-18/24

1220	OAZ-1059D-00/06
1225	OAZ-1059D-06/12
1230	OAZ-1059D-12/18
1235	OAZ-1059D-18/24



Location

Fairmont City, IL

Date

12/2/21

25

Project / Client

OAZ

(1059)

1240 OAZ-1059E-00/06

1245 OAZ-1059E-06/12

1250 OAZ-1059E-12/18

1255 OAZ-1059E-18/24

1300 OAZ-1059F-00/06

1305 OAZ-1059F-06/12

1310 OAZ-1059F-12/18

1315 OAZ-1059F-18/24

1320 OAZ-1059H-00/06

1325 OAZ-1059H-06/12

1330 OAZ-1059H-12/18

1335 OAZ-1059H-18/24

1340 Break for lunch/Back to work locations

1500 Back from lunch; set-up to sample

1515 OAZ-1059G-00/06

1520 OAZ-1059G-06/12

1525 OAZ-1059G-12/18

1530 OAZ-1059G-18/24

1535 OAZ-1059I-00/06

1540 OAZ-1059I-06/12

1545 OAZ-1059I-12/18

1550 OAZ-1059I-18/24

1555 OAZ-1059J-00/06

1600 OAZ-1059J-06/12

1605 OAZ-1059J-12/18

1610 OAZ-1059J-18/24

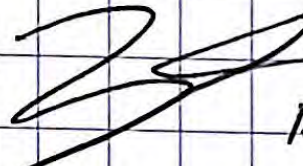
1645 personal off

site at to completely

backfilling all

holes; will finish

property tomorrow


 12/2/21

w/ FD @ 1536

w/ FD @ 1541

w/ MS

Rite in the Rain



Location Fairmont City, ILDate 12/3/21Project / Client 092

personnel: E. Deibow, Glynn Roberts, Jayson  
Burkard, Wayne Curry, Miguel Kelly  
Kamryn Smith, Kelsie Hall

weather

0745 personnel on site, PTSP/HASP advised

0800 continue sampling @ [REDACTED]

0815 0A2-1059L-00/06

0820 0A2-1059L-06/12

0825 0A2-1059L-12/18

0830 0A2-1059L-18/24

0835 0A2-1059M-00/06

0840 0A2-1059M-06/12

0841 0A2-1059M-06/12 FD

0845 0A2-1059M-12/18

0850 0A2-1059M-18/24 NS

0A2-1059Q-00/06

0855 0A2-1059Q-06/12

0900 0A2-1059Q-12/18

0905 0A2-1059Q-18/24

0910 0A2-1059N-00/06

0915 0A2-1059N-06/12

0916 0A2-1059N-06/12 FD

0920 0A2-1059N-12/18

0925 0A2-1059N-18/24



Location Fairmont City, IL Date 12/3/21 27

Project / Client OA2

0930	OA2-1059R-00/06				
0935	OA2-1059R-06/12				
0940	OA2-1059R-12/18				
0945	OA2-1059R-18/24				
0950	OA2-10590-00/06				
0955	OA2-10590-06/12				
1000	OA2-10590-12/18				
1005	OA2-10590-12/18 R				
1005	OA2-10590-18/24				
1015	OA2-1059K-00/06				
1020	OA2-1059K-06/12				
1025	OA2-1059K-12/18				
1030	OA2-1059K-18/24 MS				
1032	OA2-1059S-00/06	w/FD	1033		
1034	OA2-1059S-06/12				
1036	OA2-1059S-12/18				
1038	OA2-1059S-18/24				
1040	OA2-1059T-00/06				
1042	OA2-1059T-06/12				
1044	OA2-1059T-12/18				
1046	OA2-1059T-18/24				
1050	OA2-1059U-00/06				
1052	OA2-1059U-06/12				
1054	OA2-1059U-12/18				
1100	OA2-1059U-18/24				

*Return the Rain.*



Location Fairmont City, IL Date 12/3/21Project / Client OAZ1105 EBOSA from dean hand auger.

1120 OAZ-1059P-00/06

1121 OAZ-1059P-00/06 R

1125 OAZ-1059P-06/12

1127 OAZ-1059P-12/18

1130 OAZ-1059P-18/24

1200 finish sampling @ property and completely

backfill all holes. See figure

markup for sections where we

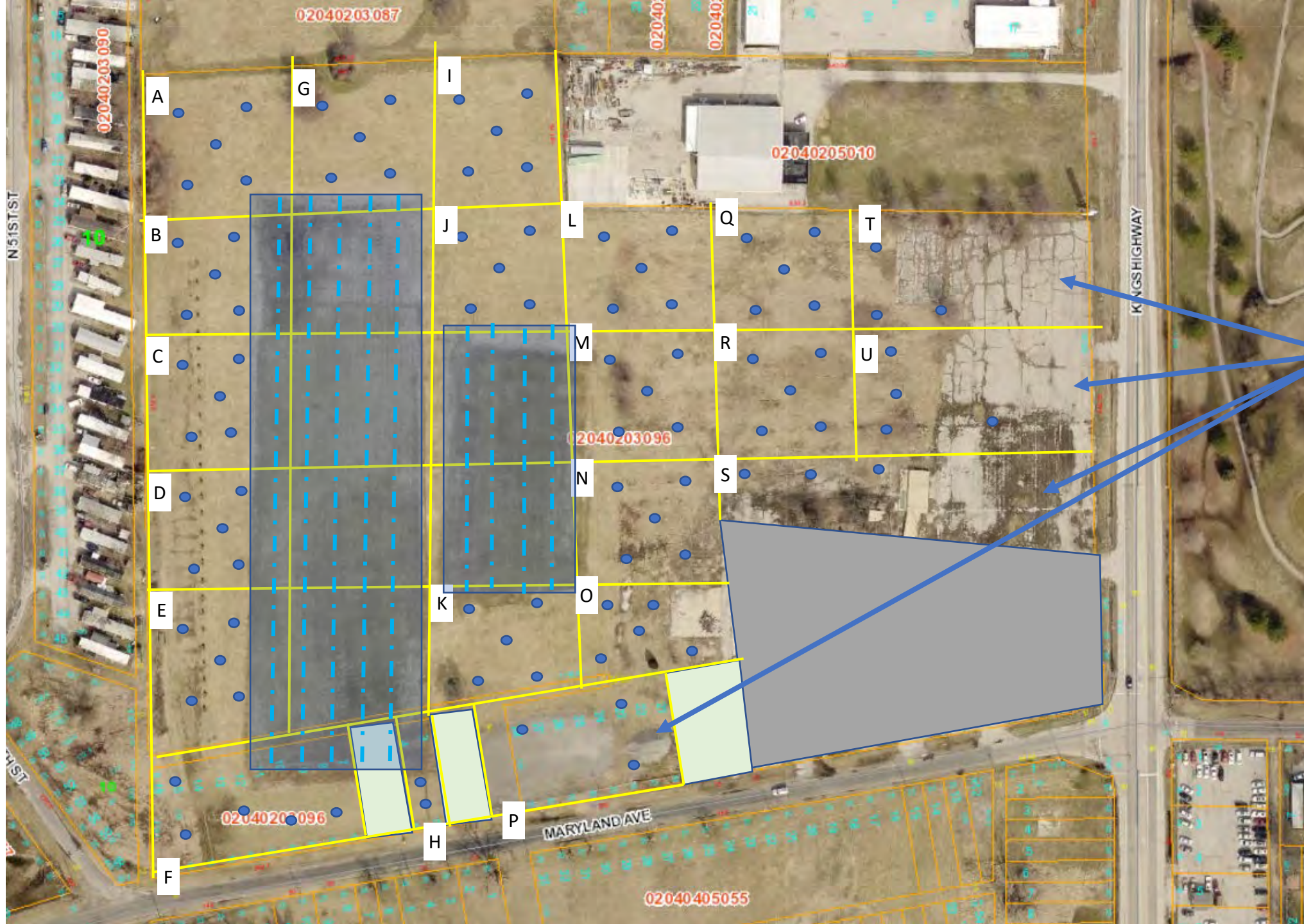
couldn't sample. Only 3 aliquots

@ T, U, S, and P due to

concrete and thick gravel refusal.

12/3/21





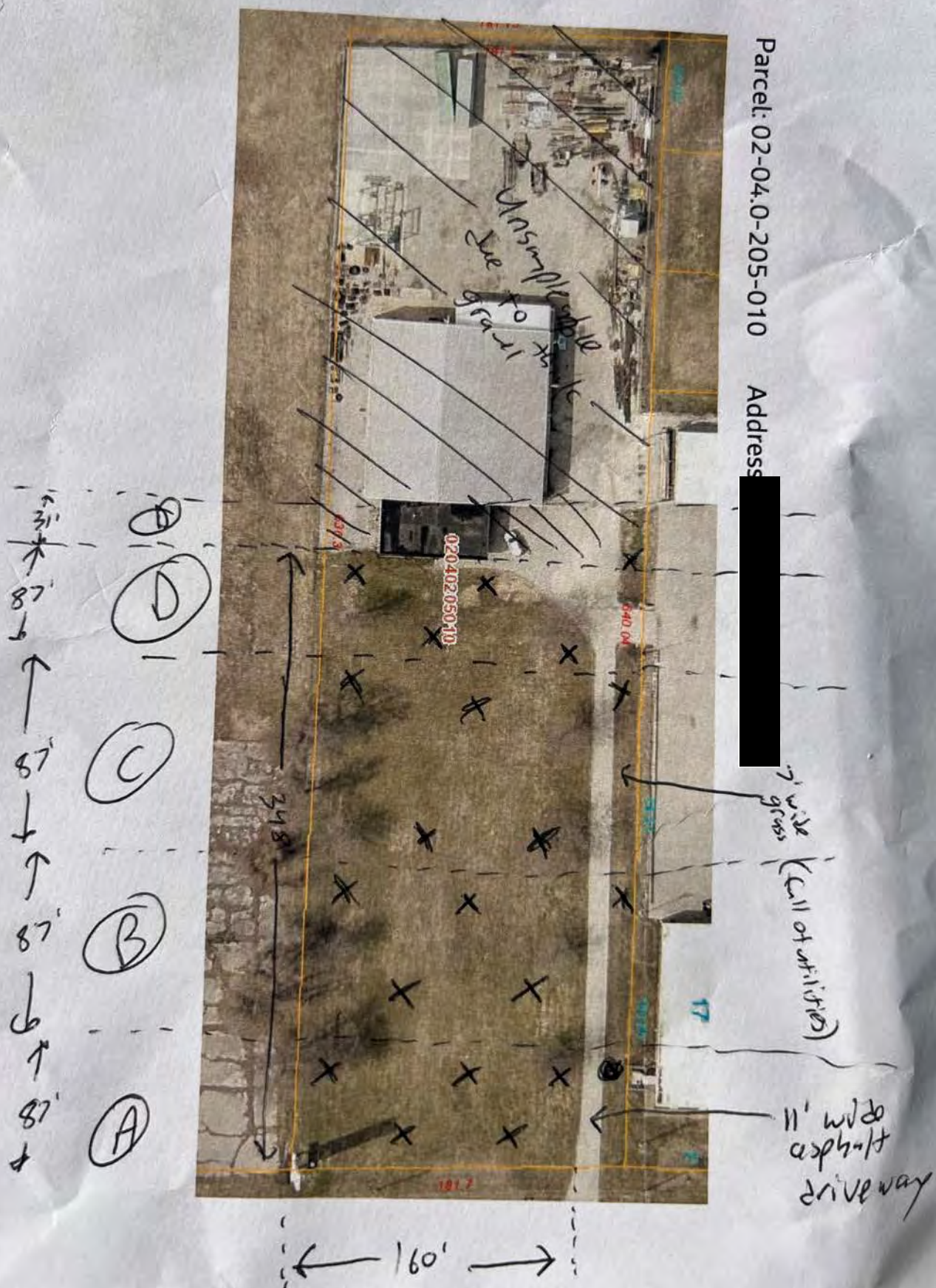
02-04.0-203-096,

Fewer aliquots  
collected in these  
areas due to concrete

Irrigate lines run N-S  
within constructed  
soccer fields (appears  
to be new fill and sod  
on soccer fields).  
Irrigation lines not  
traceable using GPR.



Address





New property

Station ID → 1069

Dimensions of sample area → 379' x 178'

1300 Setup to sample @ [redacted]; not  
sampling gravel area behind fence in area →  
unsampleable. See sample figure markup for sketch.

1330 OAZ-1069D-00/06 w/FO @ 1331

1335 OAZ-1069D-06/12 w/MS ~~1336~~

1340 OAZ-1069D-12/18

1345 OAZ-1069D-18/24

1350 OAZ-1069C-00/06

1355 OAZ-1069C-06/12

1400 OAZ-1069C-12/18

1405 OAZ-1069C-18/24

1410 OAZ-1069B-00/06

1415 OAZ-1069B-06/12

1420 OAZ-1069B-12/18

1425 OAZ-1069B-18/24

1430 OAZ-1069A-00/06

1435 OAZ-1069A-06/12

1440 OAZ-1069A-12/18

1445 OAZ-1069A-18/24

1450 Personnel off site after backfilling  
all holes completely.

12/3/21

Rite in the Rain



Location Fairmont City, ILDate 11/30/21Project / Client OAZ

Station ID → 220

~~170' x 74' = 12,580 sq ft~~1130 Arrive @ [REDACTED] sample ABCD

1140 OAZ-220A-00/06 w/ FD @ 1141

1145 OAZ-220A-06/12 w/ MSMSP1150 OAZ-220A-12/18 w/ ~~MSMSP~~ FD @ 1151

1155 OAZ-220A-18/24 w/ FD @ 1156

1200 OAZ-220B-00/06

1205 OAZ-220B-06/12

1210 OAZ-220B-12/18

1215 OAZ-220B-18/24

1220 OAZ-220B-00/06

1225 OAZ-220B-06/12

1230 OAZ-220B-12/18

1235 OAZ-220B-18/24

1240 ~~OAZ-220B~~ OAZ-220D-00/06

1245 OAZ-220D-06/12

1250 OAZ-220D-12/18

1255 OAZ-220D-18/24

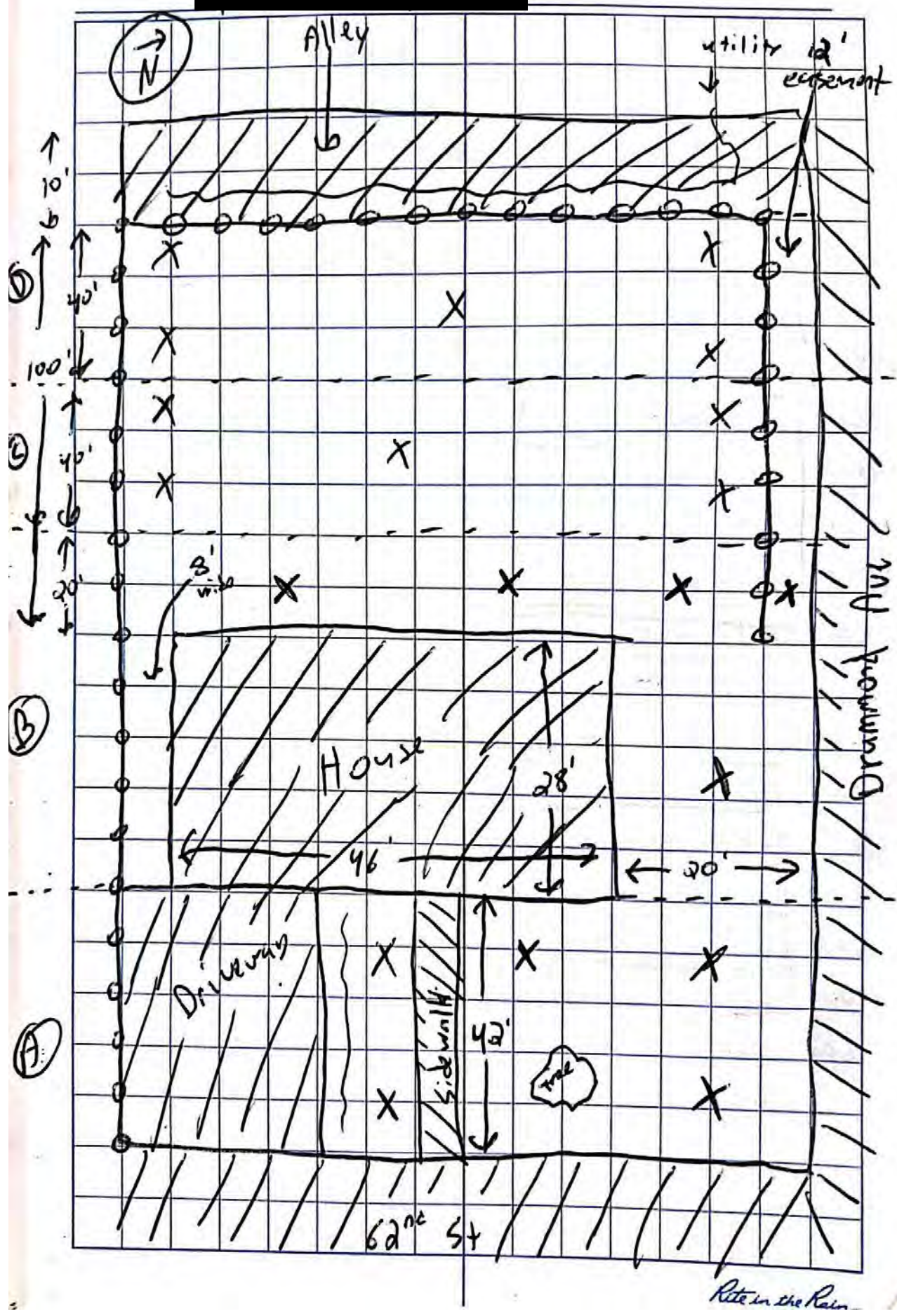
1300 personnel off property for lunch after  
completely backfilling all holes.

11/30/21



Location Fairmont City, IL Date 11/30/21

Project / Client OAZ





1500

setup to sample @

~~1505~~

Station ID → 1068

Dimensions 455' x 215' (approximate)

1505

OAZ-1068A-00/06 w/ FD @ 1506

1510

OAZ-1068A-06/12 w/ FD @ 1511

1515

OAZ-1068A-12/18 w/ NIS

1520

OAZ-1068A-18/24

1525

OAZ-1068B-00/06

1530

OAZ-1068B-06/12

1535

OAZ-1068B-12/18

1540

OAZ-1068B-18/24

1545

OAZ-1068C-00/06

1550

OAZ-1068C-06/12

1555

OAZ-1068C-12/18

1600

OAZ-1068C-18/24

1605

OAZ-1068D-00/06

1610

OAZ-1068D-06/12

1615

OAZ-1068D-12/18

1620

OAZ-1068D-18/24

1630

personnel

off site after complete

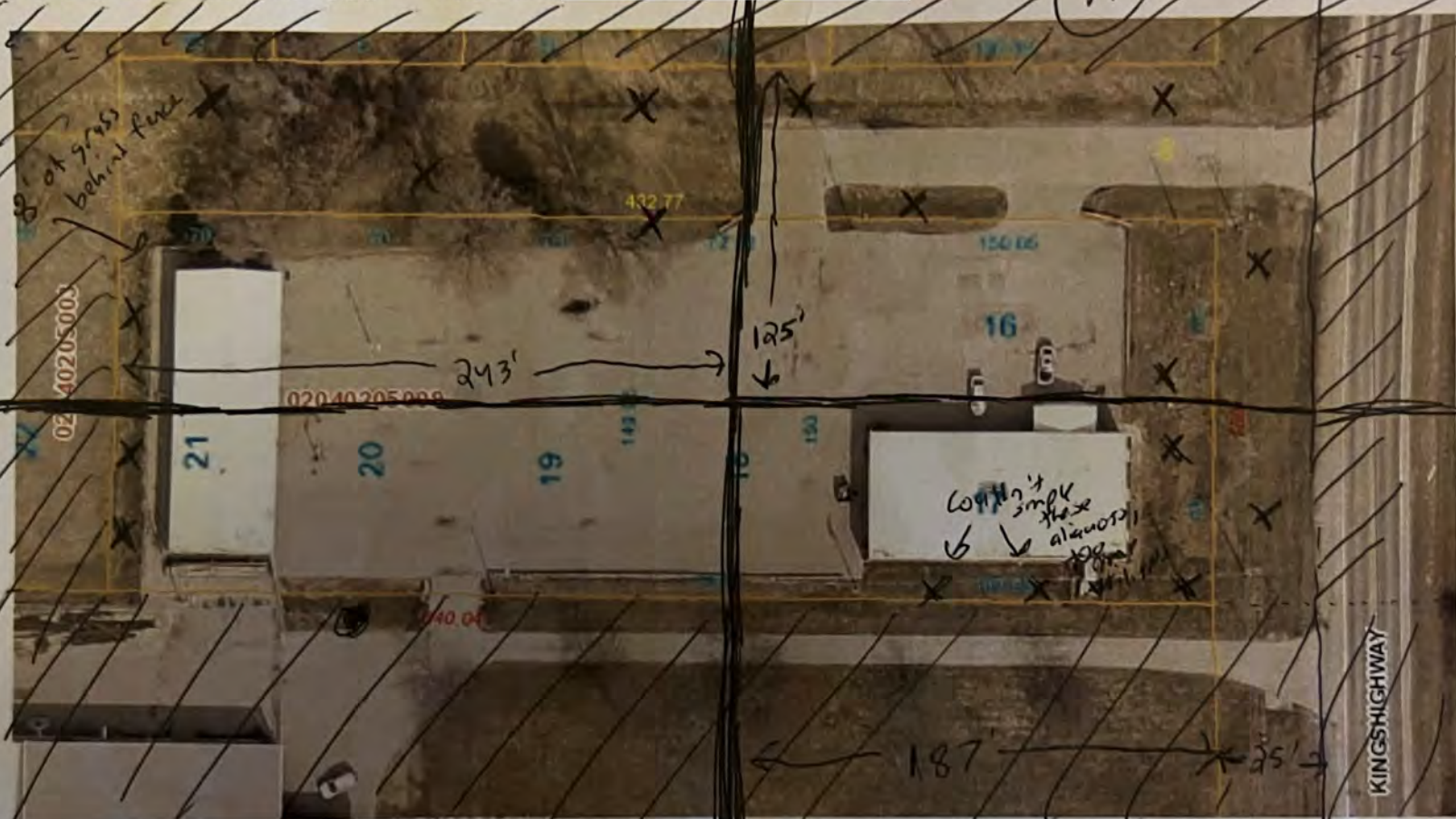
backfilling

all holes



Parcel: 02-04.0-205-009

Address: [REDACTED]



Section Lines  
are accurate to  
the satellite imagery;  
measurements are  
secondary



Location Fairmont City, ILDate 11/30/21Project / Client OAZ

personnel: Z. Olszewski, Kamryn Smith, M. Kelley

weather: 45/55°F, sunny

Station ID → 240

 $165 \times 80 = 13,200 \text{ ft}^2$ 

0745 personnel meet @ station ID 1056 (parking

lot to NE of hotel. Meet with

Rachel Grant and client (Adro). we can

potentially sample a partial property but

want to check w/ client/writing for

utility locate. ATSP

0840 Arrive @ station ID 240 → sample ABCD

0845 OAZ-240A-00/06

0850 OAZ-240A-06/12

0855 OAZ-240A-12/18

0900 OAZ-240A-18/24

0905 OAZ-240B-00/06

0910 OAZ-240B-06/12

0915 OAZ-240B-12/18

0920 OAZ-240B-18/24

0935 OAZ-240C-00/06

0940 OAZ-240C-06/12

0945 OAZ-240C-12/18

0950 OAZ-240C-18/24

1015 OAZ-240D-00/06

1020 OAZ-240D-06/12

1025 OAZ-240D-12/18

1030 OAZ-240D-18/24

1040 EBO2A from

clean hand cuse

1100 att property

after backfilling

all holes completely

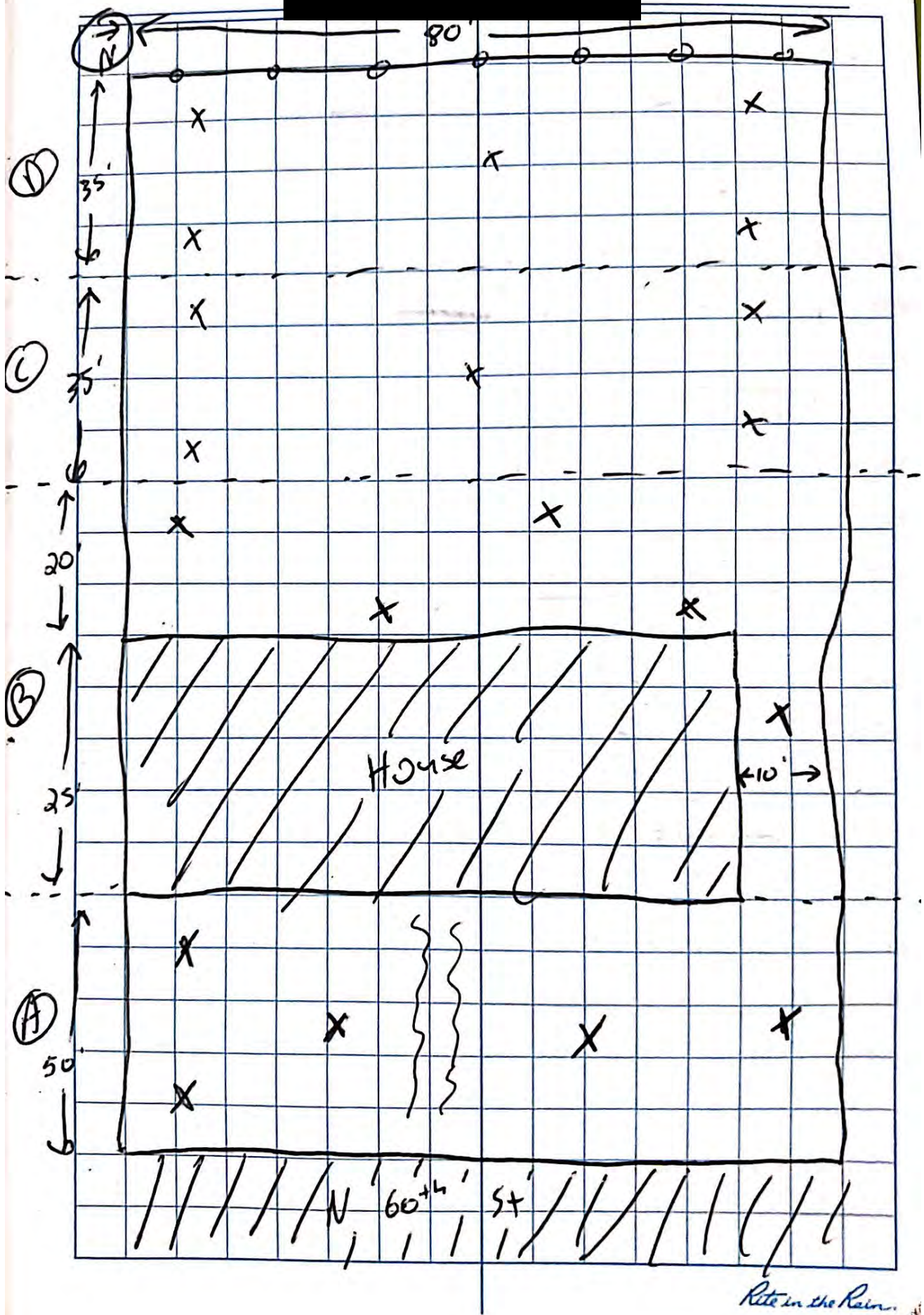
11/30/21



Location Fairmont City, IL Date 11/30/21

9

Project / Client OAZ





Location Fairmont City, ILDate 12/1/21Project / Client OAZ

(301)

Station ID  $\rightarrow$  301135' x 50'  $\rightarrow$  6,750  $\text{ft}^2$ House 39' x 30'  $\rightarrow$  1,170  $\text{ft}^2$ Driveway 55' x 12'  $\rightarrow$  660  $\text{ft}^2$ House addition 13' x 15'  $\rightarrow$  195  $\text{ft}^2$ total square feet (removing unsampleable)  $\rightarrow$  4,725  $\text{ft}^2$ No significant side yard  $\rightarrow$  sample as Front/Back

1320 setup to sample @

1325 OAZ-301F-00/06

1330 OAZ-301F-06/12

1335 OAZ-301F-12/18

1340 OAZ-301F-18/24

1345 OAZ-301B-00/06

1350 OAZ-301B-06/12

1355 OAZ-301B-12/18

1400 OAZ-301B-18/24

MIS personnel off site after completely backfilling all holes

12/1/21



Location

Fairmont City, IL

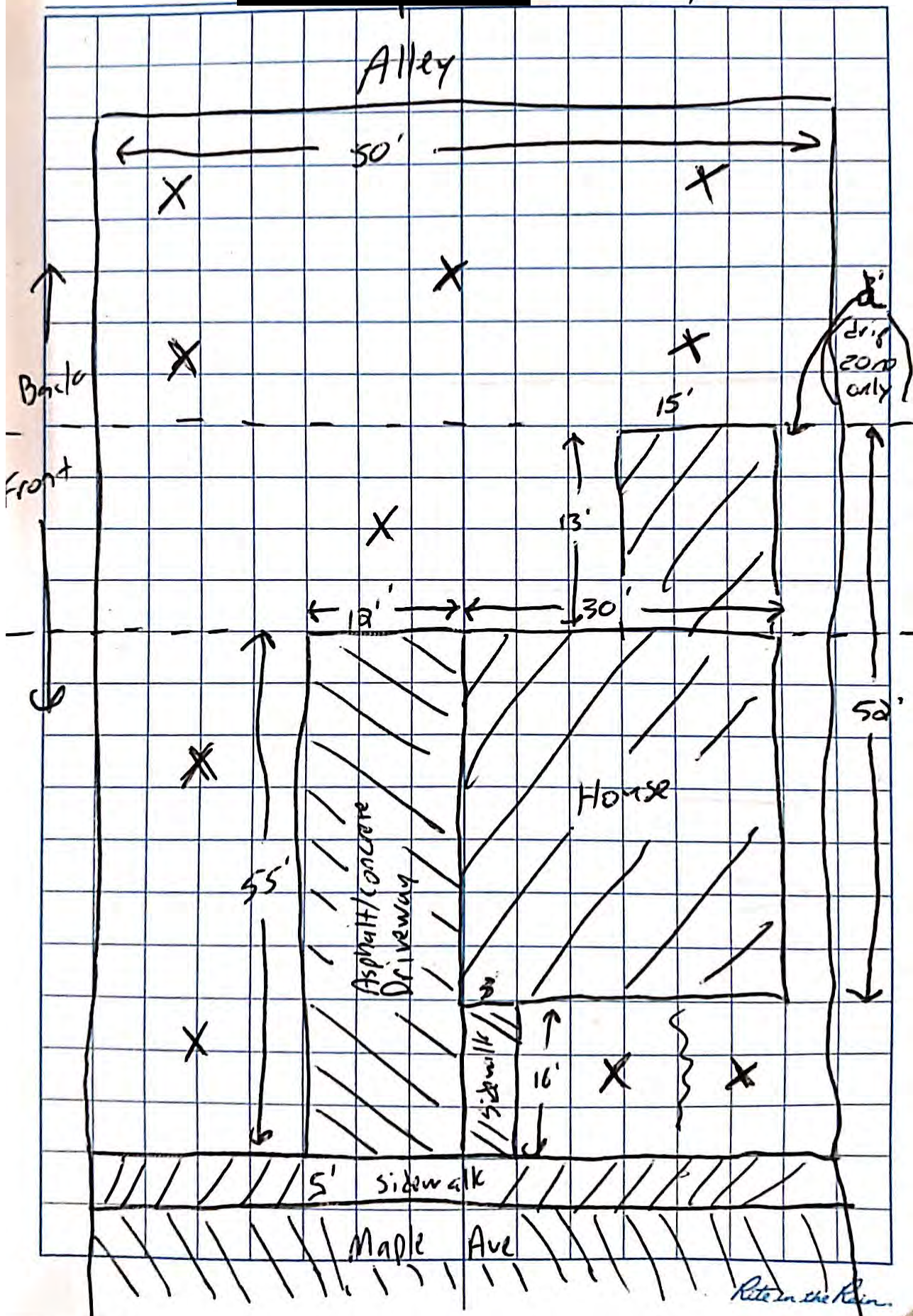
Date 2/12/21

19

Project / Client

OA2

(301)





Location Fairmont City, ILDate 11/29/21Project / Client OAZ

Station ID → 1025

12,000 ft<sup>2</sup> → ABCD1500 Arrive @ property; mark out ABCD, <sup>clean</sup> between samples

1505 OAZ-1025A-00/06

1510 OAZ-1025A-06/12

1515 OAZ-1025A-12/18

1520 OAZ-1025A-18/24

1525 OAZ-1025B-00/06

1530 OAZ-1025B-06/12

1535 OAZ-1025B-12/18

1540 OAZ-1025B-18/24

1545 OAZ-1025C-00/06 w/ FD @ 1546

1550 OAZ-1025C-06/12 w/ MSMSD1555 OAZ-1025C-12/18 w/ MSMSD

1600 OAZ-1025C-18/24

1605 OAZ-1025D-00/06

1610 OAZ-1025D-06/12

1615 OAZ-1025D-12/18

1620 OAZ-1025D-18/24

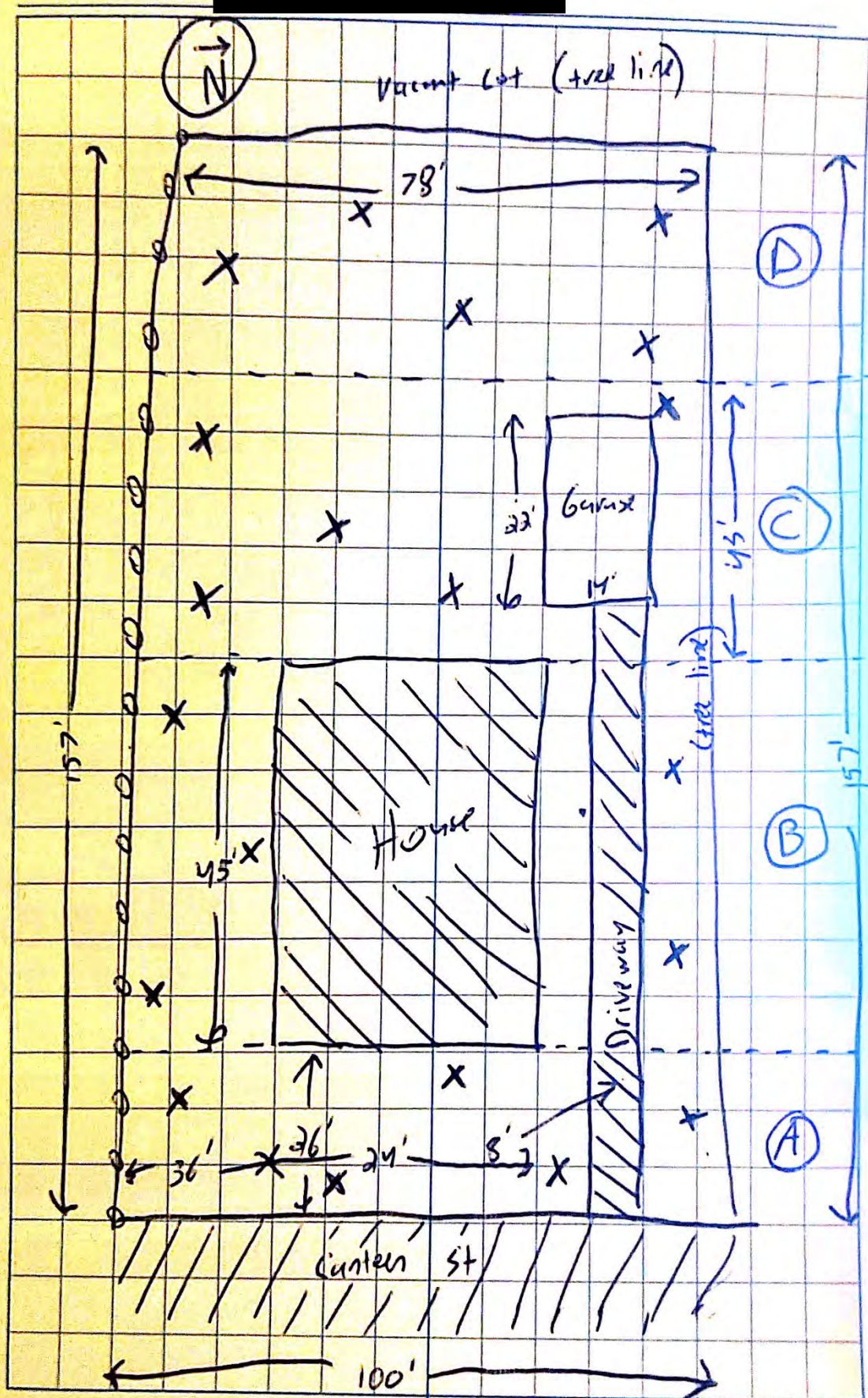
1630 EBOLA from bud under1645 personnel off site after backfilling  
all holes

11/29/21



Location Fairmont City, IL Date 11/24/21

Project / Client OAZ



*Plot in the Rain*



Location Fairmont City, IL Date 11/27/21Project / Client OAZStation ID  $\rightarrow$  1007

$$108 \times 63' = 6807 \text{ ft}^2$$

< 5000  $\text{ft}^2$  after subtracting

house/driveway/garage

1345	OAZ-1007F-00/06	w/ FD @ 1346
1350	OAZ-1007F-06/12	w/ MSMSD
1355	OAZ-1007F-12/18	
1400	OAZ-1007F-18/24	

1405	OAZ-1007S-00/06	w/ FD @ 1406
1410	OAZ-1007S-06/12	
1415	OAZ-1007S-12/18	
1420	OAZ-1007S-18/24	

1425	OAZ-1007B-00/06
1430	OAZ-1007B-06/12
1435	OAZ-1007B-12/18
1440	OAZ-1007B-18/24

1450 Leave property; down between sample intervals; completely backfill all holes.

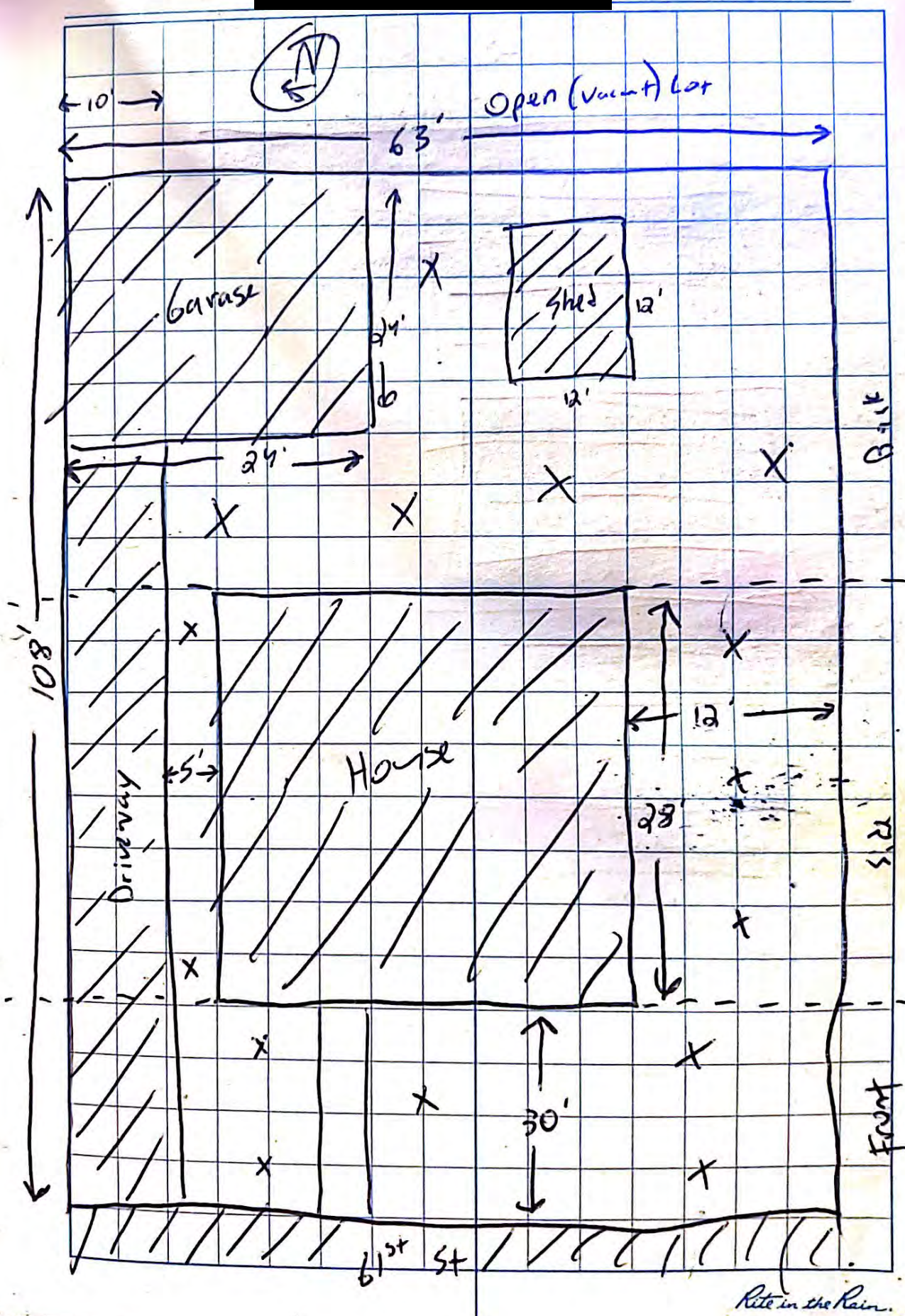
11/27/21



Location Fairmont City, IL Date 11/29/21

5

Project / Client OAZ





Location Fairmont City, IL Date 12/1/21Project / Client OAZ

(1071)

Station ID → 1071

$$164 \times 37.5' = 6,150 \text{ ft}^2$$

1425 setup to sample vacant lot as ABCD.

1430 OAZ-1071A-00/06

1435 OAZ-1071A-06/12

1440 OAZ-1071A-12/18

1445 OAZ-1071A-18/24

1450 OAZ-1071B-00/06

1455 OAZ-1071B-06/12

1500 OAZ-1071B-12/18

1505 OAZ-1071B-18/24

1510 OAZ-1071C-00/06 w/FD (a) 1511

1515 OAZ-1071C-06/12 w/FD (a) 1516

1520 OAZ-1071C-12/18 w/MS

1525 OAZ-1071C-18/24

1530 OAZ-1071D-00/06

1535 OAZ-1071D-06/12

1540 OAZ-1071D-12/18

1545 OAZ-1071D-18/24

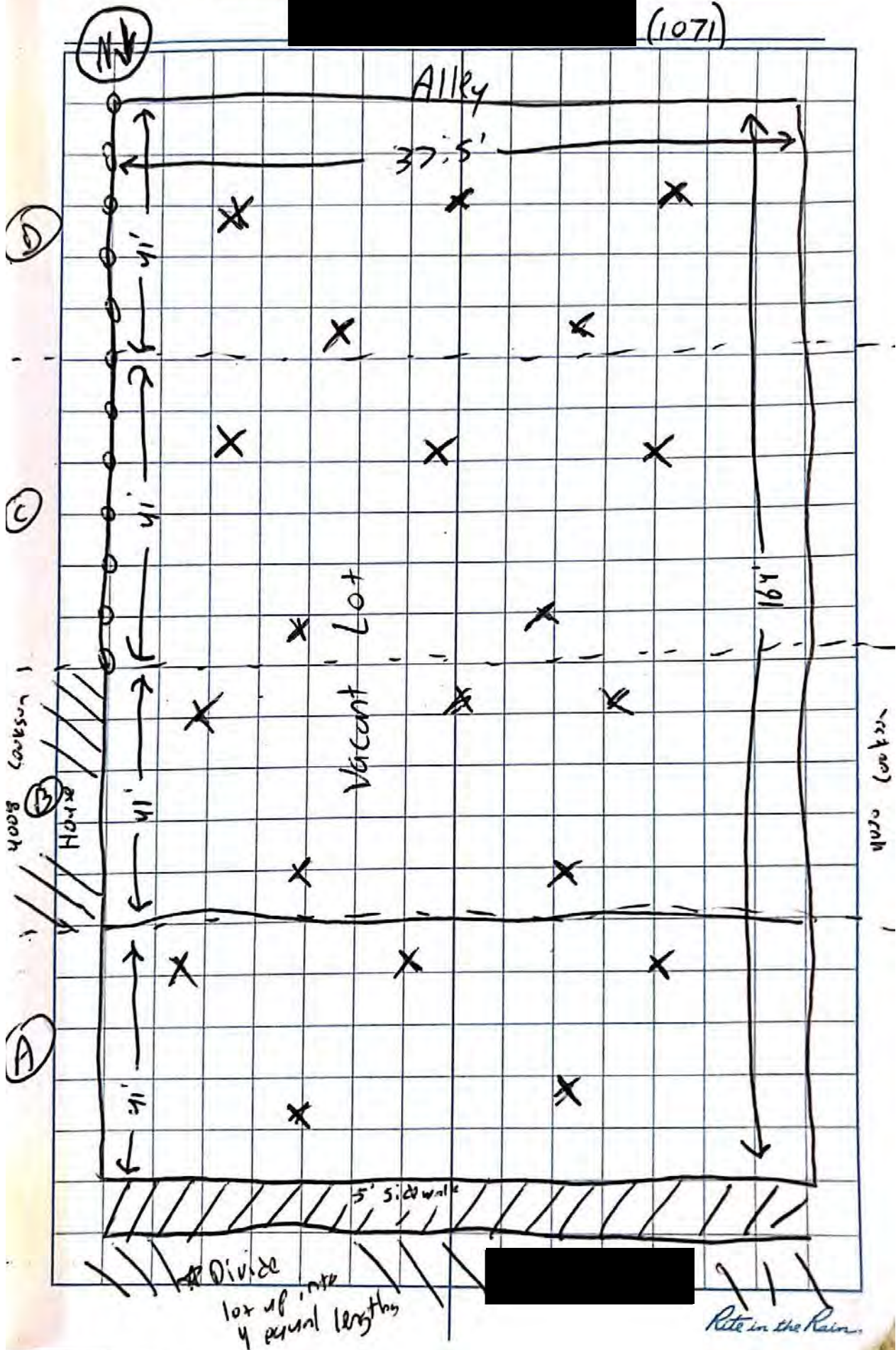
1600 personnel off site after completely  
backfilling all holes

12/1/21

Location Fairmont City, IL Date 12/1/21

Project / Client 0A2

(1071)





Location Fairmont City, IL Date 12/4/21Project / Client OAZR2

Station ID → 836

Dimensions → see sample sketch on next page

0800 setup to sample @ [REDACTED] R2

0805 OAZ-836A-00/06

0810 OAZ-836A-06/12

0815 OAZ-836A-12/18

0820 OAZ-836A-18/24

0825 OAZ-836B-00/06

0830 OAZ-836B-06/12 w/ FD @ 08310835 OAZ-836B-12/18 w/ FD @ 08360840 OAZ-836B-18/24 w/ MS

0845 OAZ-836C-00/06

0850 OAZ-836C-06/12

0855 OAZ-836C-12/18

0900 OAZ-836C-18/24

0905 OAZ-836D-00/06

0910 OAZ-836D-06/12

0915 OAZ-836D-12/18

0920 OAZ-836D-18/24

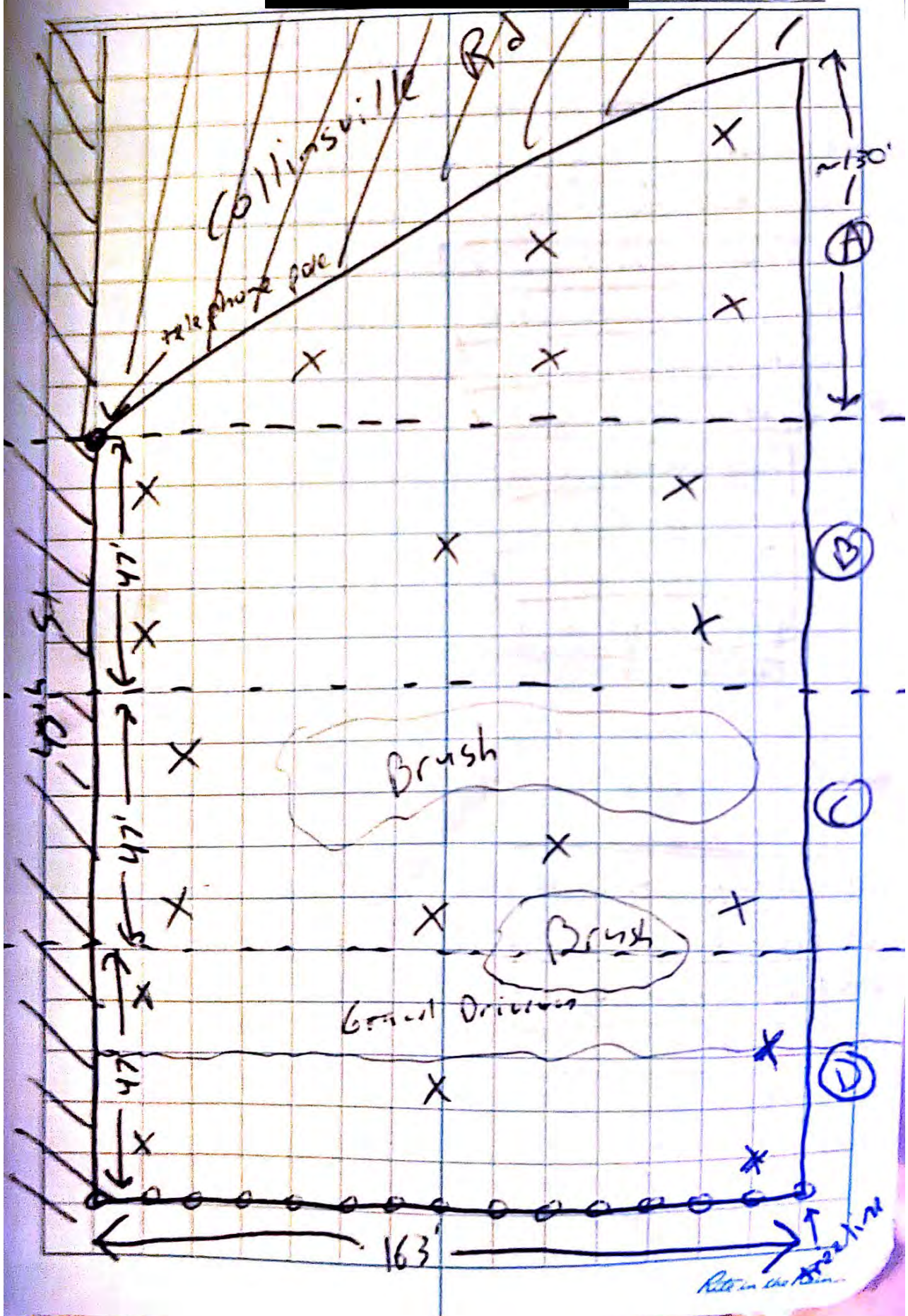
0925 personal off property after completely  
backfilling all holesR2  
12/4/21



Location Fairmont City, IL Date 12/7/01

Project / Client DA7 [REDACTED]

(N↑)





Location Fairmont City, ILDate 12/2/21Project / Client OAZ

(1058)

Station ID  $\rightarrow$  1058

$$158' \times 148' = 23,384 \text{ ft}^2$$

0745 personnel on site; PTSP; Zuh talking Glyn  
about shipping samples; Set up to  
sample ABCD @ [REDACTED]

0830 OAZ-1058A-00/06

0835 OAZ-1058A-06/12

0840 OAZ-1058A-12/18

0845 OAZ-1058A-18/24

0850 OAZ-1058B-00/06

0855 OAZ-1058B-06/12

0900 OAZ-1058B-12/18

0905 OAZ-1058B-18/24

0910 OAZ-1058C-00/06

0915 OAZ-1058C-06/12

0920 OAZ-1058C-12/18

0925 OAZ-1058C-18/24

0930 EBOYA from clean area

0935 OAZ-1058D-00/06

0940 OAZ-1058D-06/12

0945 OAZ-1058D-12/18

0950 OAZ-1058D-18/24

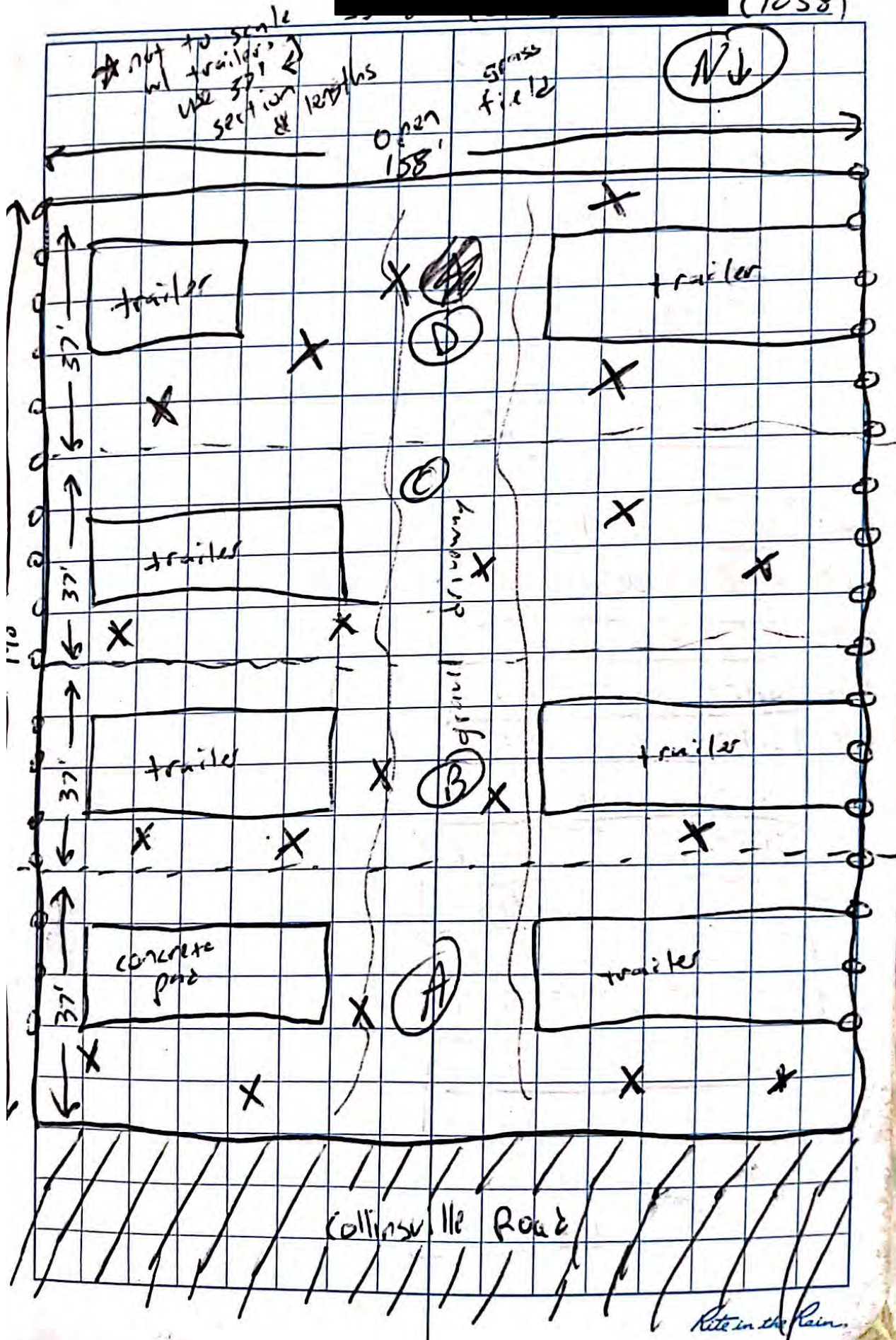
1000 personnel off site after completely built  
all holes

12/2/21



Project / Client DAZ

[REDACTED] (1058)





personnel: see Page 31

weather: 43/61°F, AM rain

O715 personnel on site; PTSP

0800 setup to sample @ Forum Drive.

0815 OAZ-1065F-00/06 w/FD @ 0816

0820 OAZ-1065F-06/12 w/FD @ 0821

0825 OAZ-1065F-12/18 w/MS

0830 OAZ-1065F-18/24

0835 OAZ-1064F-00/06

0840 OAZ-1064F-06/12

0845 OAZ-1064F-12/18

0850 OAZ-1064F-18/24

0855 OAZ-1065M-00/06

0900 OAZ-1065M-06/12

0905 OAZ-1065M-12/18

0910 OAZ-1065M-18/24

0915 OAZ-1064M-00/06

0920 OAZ-1064M-06/12

0925 OAZ-1064M-12/18

0930 OAZ-1064M-18/24

0935 OAZ-1065B-00/06

0940 OAZ-1065B-06/12

0945 OAZ-1065B-12/18

0950 OAZ-1065B-18/24



Location Fairmont City, FL Date 12/4/21Project / Client OAZForum Drive 1060, 1067, 1066

1335	OAZ-1060F-00/06
1340	OAZ-1060F-06/12
1345	OAZ-1060F-12/18
1350	OAZ-1060F-18/24

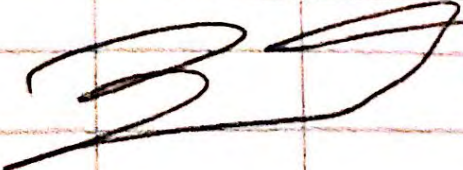
1355	OAZ-1060M-00/06
1400	OAZ-1060M-06/12
1405	OAZ-1060M-12/18
1410	OAZ-1060M-18/24

1415	OAZ-1060G-00/06
1420	OAZ-1060G-06/12
1425	OAZ-1060G-12/18
1430	OAZ-1060G-18/24

1435 Finish w/ A-M sections; move is to  
FMB panels on Forum Drive

1440	OAZ-1067B-00/06
1445	OAZ-1067B-06/12
1450	OAZ-1067B-12/18
1455	OAZ-1067B-18/24

1500	OAZ-1066B-00/06
1505	OAZ-1066B-06/12
1510	OAZ-1066B-12/18
1515	OAZ-1066B-18/24

 12/4/21



Location Fairmont City, IL Date 12/4/21

37

Project / Client OAZ

Forum Drive 1067, 1066

1520 OAZ-1067M-00/06

1525 OAZ-1067M-06/12

1530 OAZ-1067M-12/18

1535 OAZ-1067M-18/24

1540 OAZ-1066M-00/06

1545 OAZ-1066M-06/12

1550 OAZ-1066M-12/18

1555 OAZ-1066M-18/24

1600 OAZ-1067F-00/06

w/ FD (a) 1601

1605 OAZ-1067F-06/12

w/ FD (a) 1606

1610 OAZ-1067F-12/18

w/ MS

1615 OAZ-1067F-18/24

1620 OAZ-1066F-00/06

w/ FD (a) 1621

1625 OAZ-1066F-06/12

w/ FD (a) 1626 (26)

1630 OAZ-1066F-12/18

w/ MS

1635 OAZ-1066F-18/24

1700 personnel off site after completely backfilled all holes

12/4/21

Rite in the Rain



Location Fairmont City, FL Date 12/4/21Project / Client OAZForum Drive 1060, 1067, 1066

1335	OAZ-1060F-00/06
1340	OAZ-1060F-06/12
1345	OAZ-1060F-12/18
1350	OAZ-1060F-18/24

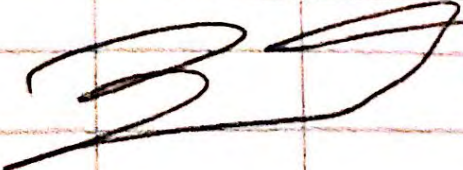
1355	OAZ-1060M-00/06
1400	OAZ-1060M-06/12
1405	OAZ-1060M-12/18
1410	OAZ-1060M-18/24

1415	OAZ-1060G-00/06
1420	OAZ-1060G-06/12
1425	OAZ-1060G-12/18
1430	OAZ-1060G-18/24

1435 Finish w/ A-M sections; move is to  
FMB panels on Forum Drive

1440	OAZ-1067B-00/06
1445	OAZ-1067B-06/12
1450	OAZ-1067B-12/18
1455	OAZ-1067B-18/24

1500	OAZ-1066B-00/06
1505	OAZ-1066B-06/12
1510	OAZ-1066B-12/18
1515	OAZ-1066B-18/24

 12/4/21



Location Fairmont City, IL Date 12/4/21

37

Project / Client OAZ

Forum Drive 1067, 1066

1520	OAZ-1067M-00/06	
1525	OAZ-1067M-06/12	
1530	OAZ-1067M-12/18	
1535	OAZ-1067M-18/24	
1540	OAZ-1066M-00/06	
1545	OAZ-1066M-06/12	
1550	OAZ-1066M-12/18	
1555	OAZ-1066M-18/24	
1600	OAZ-1067F-00/06	w/ <u>FD</u> (a) 1601
1605	OAZ-1067F-06/12	w/ <u>FD</u> (a) 1606
1610	OAZ-1067F-12/18	w/ <u>MS</u>
1615	OAZ-1067F-18/24	
1620	OAZ-1066F-00/06	<del>w/ <u>FD</u> (a) 1621</del>
1625	OAZ-1066F-06/12	<del>w/ <u>FD</u> (a) 1626</del> (26)
1630	OAZ-1066F-12/18	<del>w/ <u>MS</u></del>
1635	OAZ-1066F-18/24	

1700 personnel off site after completely backfilled  
all holes

12/4/21

Rite in the Rain



Location Fairmont City, IL Date 12/4/21Project / Client OAZforum Drive (1060)

Station ID → 1060

Dimensions → 172' x

0930 Setup to sample @ forum Drive; see figure markup for sample sketch.

0935 OAZ-1060A-00/06

0940 OAZ-1060A-06/12

0945 OAZ-1060A-12/18

0950 OAZ-1060A-18/24

0955 OAZ-1060H-00/06

1000 OAZ-1060H-06/12

1005 OAZ-1060H-12/18

1010 OAZ-1060H-18/24

1015 OAZ-1060I-00/06

1020 OAZ-1060I-06/12

1025 OAZ-1060I-12/18

1030 OAZ-1060I-18/24

1035 OAZ-1060B-00/06 w/ FD @ 1036

1040 OAZ-1060B-06/12 w/ FD @ ~~1041~~ 1041

1045 OAZ-1060B-12/18 w/ MS

1050 OAZ-1060B-18/24

1055 OAZ-1060C-00/06

1100 OAZ-1060C-06/12

1105 OAZ-1060C-12/18

1110 OAZ-1060C-18/24



Location

Fairmont City, IL

Date

12/7/21

35

Project / Client

OAZ

Form Drive

(1060)

1115	OAZ-10605-00/01	
1120	OAZ-10605-06/12	
1125	OAZ-10605-12/18	
1130	OAZ-10605-18/24	
1135	OAZ-10600-00/06	
1140	OAZ-10600-06/12	
1145	OAZ-10600-12/18	
1150	OAZ-10600-18/24	
1155	OAZ-1060K-00/06	
1200	OAZ-1060K-06/12	
1205	OAZ-1060K-12/18	
1210	OAZ-1060K-18/24	
1215	Lunch break	
1245	Resume sampling	
1250	<b>E606A</b> from den land near	
1255	OAZ-1060E-00/06	w/ FD @ 1256
1300	OAZ-1060E-06/12	w/ FD @ 1301
1305	OAZ-1060E-12/18	w/ MS @
1310	OAZ-1060E-18/24	
1315	OAZ-1060L-00/06	
1320	OAZ-1060L-06/12	
1325	OAZ-1060L-12/18	
1330	OAZ-1060L-18/24	



Location Fairmont City, FL Date 12/4/21Project / Client OAZForum Drive 1060, 1067, 1066

1335	OAZ-1060F-00/06
1340	OAZ-1060F-06/12
1345	OAZ-1060F-12/18
1350	OAZ-1060F-18/24

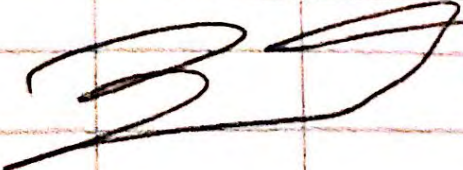
1355	OAZ-1060M-00/06
1400	OAZ-1060M-06/12
1405	OAZ-1060M-12/18
1410	OAZ-1060M-18/24

1415	OAZ-1060G-00/06
1420	OAZ-1060G-06/12
1425	OAZ-1060G-12/18
1430	OAZ-1060G-18/24

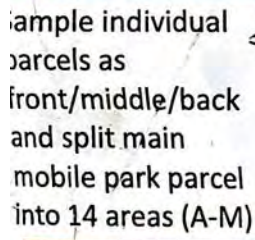
1435 Finish w/ A-M sections; move is to  
FMB panels on Forum Drive

1440	OAZ-1067B-00/06
1445	OAZ-1067B-06/12
1450	OAZ-1067B-12/18
1455	OAZ-1067B-18/24

1500	OAZ-1066B-00/06
1505	OAZ-1066B-06/12
1510	OAZ-1066B-12/18
1515	OAZ-1066B-18/24

 12/4/21







Location

Fairmont City, IL

Date 12/5/21

39

Project / Client

OAZ

Forum Drive

1064/1063/1062

0955	OAZ-1064B-00/06	
1000	OAZ-1064B-06/12	
1005	OAZ-1064B-12/18	
1010	OAZ-1064B-18/24	
1015	OAZ-1063F-00/06	w/ FD @ 1016
1020	OAZ-1063F-06/12	w/ FD @ 1021
1025	OAZ-1063F-12/18	w/ MS
1030	OAZ-1063F-18/24	
1035	OAZ-1063M-00/06	
1040	OAZ-1063M-06/12	
1045	OAZ-1063M-12/18	
1050	OAZ-1063M-18/24	
1055	OAZ-1063B-00/06	
1100	OAZ-1063B-06/12	; More off side
1105	OAZ-1063B-12/18	
1110	OAZ-1063B-18/24	
1115	OAZ-1062F-00/06	
1120	OAZ-1062F-06/12	
1125	OAZ-1062F-12/18	
1130	OAZ-1062F-18/24	
1135	OAZ-1062M-00/06	w/ FD @ 1136
1140	OAZ-1062M-06/12	w/ FD @ 1141
1145	OAZ-1062M-12/18	w/ MS
1150	OAZ-1062M-18/24	

Rite in the Rain



Location Fairmont City, ILDate 12/5/21Project / Client QAZForum Drive 1062

1155

QAZ-1062B-00/06

1200

QAZ-1062B-06/12

1205

QAZ-1062B-12/18

1210

QAZ-1062B-18/24

1315

EB07A - from clean but anger

1220

QAZ-1061F-00/06

1225

QAZ-1061F-06/12

1230

QAZ-1061F-12/18

1235

QAZ-1061F-18/24

1240

QAZ-1061M-00/06

1245

QAZ-1061M-06/12

1250

QAZ-1061M-12/18

1255

QAZ-1061M-18/24

1300

QAZ-1061B-00/06

1305

QAZ-1061B-06/12

1310

QAZ-1061B-12/18

1315

QAZ-1061B-18/24

1330

personnel off site and completely utilizing  
all holes at breaking down equipment.


  
12/5/21



Location

Fairmont City, IL

Date 12/5/21

39

Project / Client

OAZ

Forum Drive

1064/1063/1062

0955	OAZ-1064B-00/06	
1000	OAZ-1064B-06/12	
1005	OAZ-1064B-12/18	
1010	OAZ-1064B-18/24	
1015	OAZ-1063F-00/06	w/ FD @ 1016
1020	OAZ-1063F-06/12	w/ FD @ 1021
1025	OAZ-1063F-12/18	w/ MS
1030	OAZ-1063F-18/24	
1035	OAZ-1063M-00/06	
1040	OAZ-1063M-06/12	
1045	OAZ-1063M-12/18	
1050	OAZ-1063M-18/24	
1055	OAZ-1063B-00/06	
1100	OAZ-1063B-06/12	; More off side
1105	OAZ-1063B-12/18	
1110	OAZ-1063B-18/24	
1115	OAZ-1062F-00/06	
1120	OAZ-1062F-06/12	
1125	OAZ-1062F-12/18	
1130	OAZ-1062F-18/24	
1135	OAZ-1062M-00/06	w/ FD @ 1136
1140	OAZ-1062M-06/12	w/ FD @ 1141
1145	OAZ-1062M-12/18	w/ MS
1150	OAZ-1062M-18/24	

Ruth in the Rain



Location Fairmont City, ILDate 12/5/21Project / Client QAZForum Drive 1062

1155

QAZ-1062B-00/06

1200

QAZ-1062B-06/12

1205

QAZ-1062B-12/18

1210

QAZ-1062B-18/24

1315

EB07A - from clean but anger

1220

QAZ-1061F-00/06

1225

QAZ-1061F-06/12

1230

QAZ-1061F-12/18

1235

QAZ-1061F-18/24

1240

QAZ-1061M-00/06

1245

QAZ-1061M-06/12

1250

QAZ-1061M-12/18

1255

QAZ-1061M-18/24

1300

QAZ-1061B-00/06

1305

QAZ-1061B-06/12

1310

QAZ-1061B-12/18

1315

QAZ-1061B-18/24

1330

personnel off site and completely utilizing  
all holes at breaking down equipment.


  
12/5/21



Location

Fairmont City, IL

Date 12/5/21

39

Project / Client

OAZ

Forum Drive

1064/1063/1062

0955	OAZ-1064B-00/06	
1000	OAZ-1064B-06/12	
1005	OAZ-1064B-12/18	
1010	OAZ-1064B-18/24	
1015	OAZ-1063F-00/06	w/ FD @ 1016
1020	OAZ-1063F-06/12	w/ FD @ 1021
1025	OAZ-1063F-12/18	w/ MS
1030	OAZ-1063F-18/24	
1035	OAZ-1063M-00/06	
1040	OAZ-1063M-06/12	
1045	OAZ-1063M-12/18	
1050	OAZ-1063M-18/24	
1055	OAZ-1063B-00/06	
1100	OAZ-1063B-06/12	; More off side
1105	OAZ-1063B-12/18	
1110	OAZ-1063B-18/24	
1115	OAZ-1062F-00/06	
1120	OAZ-1062F-06/12	
1125	OAZ-1062F-12/18	
1130	OAZ-1062F-18/24	
1135	OAZ-1062M-00/06	w/ FD @ 1136
1140	OAZ-1062M-06/12	w/ FD @ 1141
1145	OAZ-1062M-12/18	w/ MS
1150	OAZ-1062M-18/24	

Ruth in the Rain



personnel: see Page 31

weather: 43/61°F, AM rain

O715 personnel on site; PTSP

0800 setup to sample @ Forum Drive.

0815 OAZ-1065F-00/06 W/FD @ 0816

0820 OAZ-1065F-06/12 W/FD @ 0821

0825 OAZ-1065F-12/18 W/MS

0830 OAZ-1065F-18/24

0835 OAZ-1064F-00/06

0840 OAZ-1064F-06/12

0845 OAZ-1064F-12/18

0850 OAZ-1064F-18/24

0855 OAZ-1065M-00/06

0900 OAZ-1065M-06/12

0905 OAZ-1065M-12/18

0910 OAZ-1065M-18/24

0915 OAZ-1064M-00/06

0920 OAZ-1064M-06/12

0925 OAZ-1064M-12/18

0930 OAZ-1064M-18/24

0935 OAZ-1065B-00/06

0940 OAZ-1065B-06/12

0945 OAZ-1065B-12/18

0950 OAZ-1065B-18/24



Location

Fairmont City, IL

Date 12/5/21

39

Project / Client

OAZ

Forum Drive

1064/1063/1062

0955	OAZ-1064B-00/06	
1000	OAZ-1064B-06/12	
1005	OAZ-1064B-12/18	
1010	OAZ-1064B-18/24	
1015	OAZ-1063F-00/06	w/ FD @ 1016
1020	OAZ-1063F-06/12	w/ FD @ 1021
1025	OAZ-1063F-12/18	w/ MS
1030	OAZ-1063F-18/24	
1035	OAZ-1063M-00/06	
1040	OAZ-1063M-06/12	
1045	OAZ-1063M-12/18	
1050	OAZ-1063M-18/24	
1055	OAZ-1063B-00/06	
1100	OAZ-1063B-06/12	; More off side
1105	OAZ-1063B-12/18	
1110	OAZ-1063B-18/24	
1115	OAZ-1062F-00/06	
1120	OAZ-1062F-06/12	
1125	OAZ-1062F-12/18	
1130	OAZ-1062F-18/24	
1135	OAZ-1062M-00/06	w/ FD @ 1136
1140	OAZ-1062M-06/12	w/ FD @ 1141
1145	OAZ-1062M-12/18	w/ MS
1150	OAZ-1062M-18/24	

Ruth in the Rain